

As one barrier falls, another takes its place. In the aftermath of an industrial tribunal ruling on a discriminatory "age bar", Felicity Jones looks at the battle for EQUAL OPPORTUNITY in academic posts (page 12)

SIBERIA conjures up images of depopulated waste and political exile. The area is, however, one of the world's richest and least exploited regions, subject of increasing academic interest. Carolyn Dempster reports from a recent conference of Siberian experts (page 12)

Aspiring dreams: in the first of a four-part series on UNIVERSITY ARCHITECTURE, James Dunbar-Naamith describes the classic origins of the Academy and its modern counterpart in Thomas Jefferson's University of Virginia (page 13)



A thinking reed crossed with a forked radish: Sir PETER MEDAWAR almost seems the ideal hybrid of intellectual brilliance and humane imagination. Lewis Wolpert reviews Medawar's autobiography *Memoir of a Thinking Radish* (page 16)

In a special section on SOCIOLOGY BOOKS we review new work on class, ethnomethodology, Michel Foucault, Talcott Parsons and crime (pages 21-25)

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## Scholarship or research

Over the next 10 years a number of university teachers will become less involved in research - or rather the assumption that all university teachers are also researchers will be abandoned. Their university or department may be among those less favoured by the University Grants Committee in its selective distribution of what will become a specific grant for research.

They may find that the general largesse of the research councils is increasingly curtailed. They may discover that the pressures of teaching increase as universities have to abandon the defence of a generous unit of resource around which the UGC's 1981 strategy was organized. They may be more absorbed by the demands of entrepreneurial management arising from the growth of industrial consultancy, continuing education, fund raising and the rest. So the almost universal research culture established in universities after 1945, and most strongly in the 1960s and 1970s, will be substantially modified.

In the same period the number of polytechnic teachers significantly engaged in research will increase. One reason will be the natural academic build-up that is a consequence of high calibre staff over the past decade. Another is the traditional insistence by the Council for National Academic Awards that evidence of research achievement is an important qualification for teaching at degree level. A third is that the National Advisory Body has encouraged the development of research by establishing a research fund that may be financially meagre but is symbolically potent.

In the future the binary divide will make less and less sense as a guide to the actual pattern of research in British higher education. In both sectors the funding of research will be highly selective, in the universities because the UGC has been forced by the inadequacy of its grant to discriminate more sharply and in the polytechnics and colleges because the NAB has had no thought but to be selective as it has developed a research policy from first principles. The result is that higher education teachers will be divided into those who research and those who don't.

This will create great difficulties of psychological adjustment as well as practical arrangement. Indeed the former may be more formidable than the latter. The old idea that university teachers did and the others didn't at least offered a comprehensible framework, however far it may have drifted from being an accurate description. Now a new idea is needed to justify the emerging pattern of a much more selective research effort no longer aligned neatly with the binary divide.

search is a confusing variety of intellectual activities. In terms of its relationship with teaching some research is directly relevant in both content and method; some although not directly relevant creates the high academic morale essential for good teaching; some is not only irrelevant but competitive. In terms of function some research is frontier science; some cultural commentary; some technological product; some close to moral speculation. In terms of cost some research is expensive and requires elaborate organization; some is still expensive; some is less costly. Yet none of these differences align neatly with any general distinction between the valuable/relevant and the less valuable/irrelevant, still less with broad disciplinary boundaries between the arts and the sciences.

The conclusion therefore must be that any distinction between "scholarship" and "research" is opportunistic rather than... well, scholarly. It is useful rather than accurate. Its first use is to offer a plausible justification for the division of higher education teachers into researching sheep and non-researching (or scholarly) goats.

The second is that it offers the UGC a justification for more selective distribution of research money. The UGC can use the distinction between "scholarship" and "research" to develop an allocation system that concentrates resources for expensive research, most of it in science, while continuing to provide most universities with the resources for less expensive research, much of it in arts. But it would be a great mistake to imagine that there is any ideal as opposed to utilitarian justification for the scholarship-research dichotomy. It is a distinction that has been invented to justify the necessary logistical pattern; this pattern has not been produced to reflect a justifiable distinction.

Of course the danger with this opportunistic distinction between "scholarship" and "research" is that one day it may be believed to be an accurate description of research and so taken seriously. After all if it is generally accepted that a proper demarcation can be made between the teaching-scholarship and the research functions of higher education the integrity of the academic profession will be in jeopardy. Academics may be paid for eight months as teachers and four months as researchers, or nine and three, or six and six. Eventually the integrity of higher education itself could be threatened. If research is so readily distinguishable, why not create separate research institutes quite outside the university on the European pattern? The trouble with hares, once they are got running, is that they are very difficult to stop.

## The architecture of dreams

The architecture of higher education - its buildings - is as controversial a subject as architecture in higher education - the education and training of future architects. The former is dogged by inevitable obsolescence; the latter is troubled by ephemeral, but maybe essential, rationalization. Both have consequences that disappear into the unknowable future. Half a century from now universities and polytechnics will still have to live essentially within their existing campuses, while Britain's built environment will be very much the responsibility of today's architects-in-training.

For higher education its buildings have a double significance. First, they represent one of the most

powerful constraints on future planning. Not only do their maintenance and renewal represent an inescapable cost that may present the more creative use of scarce resources, but their physical arrangement may limit open to an institution. However, architecture's second significance is even greater. For technical and logistical problems, but to offer cultural answers to social, political and dreams. The buildings have lasted longer after these answers have been given than they have after they have died away.

The series of articles which begins this week with a contribution by James Dunbar-Naamith (page 13) is an attempt to examine the "fit" between the buildings and the dreams they have frozen into steel and concrete. Higher education itself is almost the best subject for such examination, because so much new building according to consistent plans took place in the universities and polytechnics between 1950 and 1975 and because its idealistic intentions are so plain to read. It is a story dominated by the new universities, but the rather different piecemeal development of the civics and the polytechnics should not be overlooked. Spence and Lasdun gave permanent expression to the Robbins programme. Their buildings remain as a monument to ideals of which higher education has no cause to be ashamed as it searches for their more popular redefinition.

Laurie Taylor



Punt E Mes for you, Simon. What's that, Charles? Punt E Mes. Italian appetizer. Ah.

Caroline and I came across Siena last year. After the pub. You can have it by itself with and slice or as a longer dish with ginger ale or bitter lemon. Sounds interesting. And you, Sarah? Please, Simon. It does sound rather jolly.

Well, Cheers everybody. Cheers. Mmmm. Really delicious. Well, Simon. How tricks generally? Young Mike got himself sorted out. Rather looks like it. He got a letter from Oxford on Tuesday. What did they call it, Caroline? Provisional something. Provisional acceptance, darling. That's right. Provisional acceptance. Excellent. Of course, there's still the old A levels.

Well, knowing Markie... Let's hope so. So he'll be going up this autumn. That's right. Which college? Not exactly a college. What's that?

It's the poly. Oxford poly. He's going up to Oxford poly. Poly? Yes, I don't know whether you've been following the news, but apparently they're rather popular at the moment. It seems the courses are much more closely monitored than the universities. Sounds interesting.

Oh yes. And what's more the chances of getting a job at the end are rather better because lots of the people there have got more experience. What was the phrase, Caroline? Hands-on, darling. Hands-on experience. That's it. Hands-on experience. Sounds rather jolly.

Oh yes. And what's more the staff are now better paid than at universities. And only recently - the ultimate accolade really - Sir Keith himself showed that he also regarded them in exactly the same way as the universities. Really? How did he do that? He started to close them down. Anyone for Refills?

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Ants and chips

Taking a bite out of high technology, this ant with a voracious appetite for the silicon chip clamped between its jaws is being used by Liverpool University to highlight its contribution to Industry Year 1986, an exhibition of academic and industrial collaboration in the electronics field which is being staged at the university until May 9.

## Jarratt hits at 'Spanish practices'

by Peter Aspdon

The Jarratt report on university efficiency does not threaten academic freedom but it does strike at the vested interests and "Spanish customs and practices" of some academics, said the report's author, Sir Alex Jarratt, in a lecture at the Royal Society of Arts. He told members of the society that there was nothing novel in the report which was not already being done by some universities. It was important for universities to plan more effectively but he emphasised that the role of the University Grants Committee and its review by the Croom committee remained the fulcrum on which a national policy for universities should be based. He also said that Government would have to foot the bill for any major staff restructuring which took place, because of the prohibiting factor of tenure. "Universities do not have sufficient funds, nor will they be able to secure them," he added.



A year of Jarratt, 11

Sir Alex, who was giving the third lecture in a series on the art of management, said universities had first greeted the report with a mixture of complacency and hysteria, but they were now taking the spirit and the letter of the paper into account. He said the universities which would have the most trouble in adapting to the need for change were those which had not been the hardest hit as a result of the 1981 cuts. "They have not been forced to change already, and will have the most difficulties."

## Don't cut student numbers say employers in poll

by Carolyn Dempster

Most employers of graduates reject the Government's plan to run down the number of students in higher education in line with the decline in the number of 18-year-olds.

According to a poll conducted by The Sunday Times and analysed by Market and Opinion Research International (MORI) 57 per cent oppose any reduction in the annual output of graduates while only 28 per cent agree that the proportion of young people going to higher education should be increased which would lead to a fall.

But they are wholeheartedly in favour of Government strategies to boost the number of science and engineering students. More than 70 per cent of the 443 companies surveyed in December last year support the Government in its bid to increase provision and intake in the science disciplines.

The poll makes it quite clear that industry and commerce do not prefer the "trained mind" of the arts and social sciences graduate, with 71 per cent of the companies questioned opting for the more technical skills of the science and engineering graduate.

## Young denies training ministry

A categorical denial that the Government intends to create a new ministry of education and training with Lord Young at its head came from the Secretary of State for Employment himself this week.

In an informal aside during his tour of Spring Open '86 the first national open learning conference ever staged, Lord Young referred to press speculation naming him as the likeliest contender for the post of secretary of state at a new combined Department of Education and Training.

Scuffling at the reports, Lord Young said he would not be taking up such an appointment. There was, he maintained, no Government intention to establish a joint department.

"And I am absolutely right on this one," he added. His comments coincided with a new spate of reports that Sir Keith Joseph, Secretary of State for Education, will depart from office shortly, having already announced his intention to leave politics at the next election.

Open learning, page 4

## Salaries study reveals drab academic life

by Ngai Crequr

A dismal and disturbing picture of university academic life is revealed in a study by management consultants, published today.

The study by PA Personnel Services, commissioned by the Committee of Vice Chancellors and the Association of University Teachers, shows: ● an alarming age profile. The average age of an academic in 1980/81 was 49 years compared to 39 in 1970/71. In industry this would cause "extreme concern."

● much lower salaries than industry. The salary of a bright academic aged 32 is 63 per cent below that of an industrial counterpart.

● a promotion blockage for the next two decades with natural successors unable to obtain necessary skills, expertise or experience.

● pessimism among university teachers about the attractiveness of academic life. They are moderately or very dissatisfied with the calibre of one-quarter of recruits to their department.

● declining research facilities and the shift in emphasis from pure to applied research.

● concern in industry, which sees the universities as centres of excellence, that the number and quality of graduates will not be maintained.

The study, commissioned by the universities academic salaries Committee A, was designed to show the problems of the universities in recruiting, retaining and motivating academic staff in the light of competition from industry and the public services.

It interviewed staff from six agreed institutions: Bradford, Bristol, Leeds, Glasgow, University College London and Warwick. It also compared pay and conditions with 192 major employers of graduates, discussed current practice with ten major organizations such as the BBC, the Civil Service, BP and ICI, and examined UK and international data on staffing and salaries.

The freedom to conduct their own research and the opportunity to pursue subject disciplines were overwhelming factors in attracting high quality recruits to the universities. After them came academic freedom, the freedom to follow personal interests and the pursuit of excellence.

The main factors deterring such candidates were low salaries and lack

of promotion opportunities, followed by administrative work, overall workload and status. The pattern is similar in the reasons given for either staying or leaving.

Although most university teachers still find their jobs rewarding they believe that almost all the attractions that first led them to academic life, such as freedom to research and enjoyment of teaching, will fade.

All the respondents said they were concerned about maintaining a reasonable standard of living for themselves and their families. Many referred to lack of funding leading to poor facilities and research falling behind, cuts meaning fewer jobs, poor promotion and an uncertain future, low morale and a feeling that the profession and consequently the academic was being devalued.

The study shows the stagnation in the universities and comments "if recruitment of young high calibre applicants is to remain at its present level, by the turn of the century there will not be enough candidates to fill the positions made vacant by the retirement of those currently aged 45 years."

Unlike industry salary scales do not reward good performance or motivate academics to improve their performance levels, say the consultants.

In a comparison of salaries in other countries, taking into account cost of living, the starting salary for a lecturer in Great Britain is lower than that in Australia, West Germany, the Netherlands, Singapore and the United States.

More than half of all final year undergraduates interviewed for a Gallup survey say they will not take up teaching because of low pay, results published today show.

According to the survey four out of five final year students think that teaching is poorly paid compared to other professions and 53 per cent cited low pay as a reason for not taking up teaching. Only 5 per cent of undergraduates said that teaching was their first choice.

The survey which was undertaken for the National Association of Schoolmasters/Union of Women Teachers covered over 400 university and polytechnic students studying a number of different subjects, and over 100 students taking a teaching qualification at universities, colleges and polytechnics.

## Britain woos overseas market

from John O'Leary

KUALA LUMPUR. The biggest single event aimed at restoring Britain's share of the overseas student market opens today in Kuala Lumpur to some scepticism from Malaysian commentators and a certain amount of apprehension among the British organizers.

Some 90 universities, polytechnics and colleges (public and private) are exhibiting at British Education Week, which is expected to attract 10,000 Malaysians, most of whom will be considering study abroad. The exhibition is being opened by Datuk Abdullah Badawi, education minister of Malaysia, whose presence in the middle of a crucial election campaign is an indication of government support.

Smaller events, on the island of Penang and in east Malaysia, in the week running up to the main exhibition, have drawn large numbers of potential students. In Penang, about 1,000 students and their parents attended a two-day fair and most of the 24 institutions exhibiting there expect to recruit some overseas students as a result.

Some universities and polytechnics sent admissions tutors from the most popular departments (law, accountancy, engineering and medicine) empowered to interview candidates and make offers of places on the spot. But most were simply offering advice and sending home applications.

They were faced with a wide variety of inquiries, some from aspiring students as young as 14, sheltered by their parents, others from well-qualified students seeking postgraduate places. Those wanting undergraduate places ranged from the sixth former with one A level, who spent all day doing the rounds of the exhibitors to no effect, to the holder of five A grades, who was snapped up for a course in medicine and sent to find sponsorship.

Even the less expensive courses, in law or accountancy for example, cost as much as a BMW car. But there is no shortage of such cars, or of students who can afford to fly to Britain for interviews, as some medical schools require. Others (mostly Malays, rather than Chinese Malaysians) can hope for

state scholarships now that the obstacles to study in Britain are being lifted.

Malaysia was probably the strongest critic of full cost fees for overseas students and its press has attacked the recruiting methods used by some British institutions of higher education in recent years. There has been an endless succession of recruiting missions, supplemented by local agents sometimes acting for dubious private colleges.

In addition, although Malaysian universities enjoy long-standing links with their British counterparts, exemplified by the arrival this week of the vice chancellor of University College, Swansea, for an extended consultancy in Penang, they do not want to lose their best students.

The week, organized by the British Council, has issued clear instructions to the 130 academics to bear in mind the sensitivity of the occasion. It is intended to be the first in a series of large-scale recruiting fairs in Southeast Asia organized as part of the council's counselling service for overseas students, which it runs in Singapore, Hong Kong and Kuala Lumpur.







## DON'S DIARY

## FRIDAY

Last day of term, very busy but fortunately Nola had arranged for Vernon to pick up tickets. Finished my paper on future course development plans for faculty. Saw Mike re installation of our DTI Initiative computers. They had arrived - just as well since the DTI insisted everything to be complete by today. Gave a rocket at request of course tutor to some first year students who hadn't completed their lab work. Saw Roger and Larry re ideas on our new BEG submission. I'll take the scheme with me - perhaps I'll get time to work on it. Duty rota arranged over holiday period; also asked Larry to chase GEC research work and Mike our NIEL contract.

## SATURDAY

Finished packing - the single case I'm taking is now very heavy, not with clothes but books and technical literature. Went to PTA quiz evening at St. Andrew's. We're a very strong team, well balanced, fine coverage... but sadly our magnificent effort only put us eighth out of 20!

## SUNDAY

Managed to play a couple of hours tennis before Lynn drove me to Heathrow. I'm booked business class to Paris! Excellent meal and drinks crammed a flight less than an hour. Luggage unfortunately did not arrive with me. Spent the next three hours waiting, finally it came through.

## MONDAY

Arrived promptly at Unesco at 9 am. Spent most of the day being briefed and picking up papers. My mission is to Peshawar, North West Pakistan. In 1979, Unesco had begun a project to set up a scientific instrumentation centre to serve the university and the local region of N. W. Frontier, close to Afghanistan. They'd put quite a lot of money in and equipment but were worried about its progress. My task was to get things going and make recommendations on how to expand the centre to provide services for industry, research institutes and hospitals and so on. One thing that was brought home to me during the day was the genuine sadness that the UK had followed the United States and withdrawn from Unesco. Why hadn't the UK stayed and pushed for reform from within?

Finally I realized that I had no medical cover for my trip. Managed (I think) to buy a policy, although the details were all in French. Hope I don't have to make a claim!

## TUESDAY

Found taxi and off to Charles de Gaulle airport. Left Paris in time on a

KLM flight to Amsterdam - wrong direction but I was to pick up the main flight at Schiphol. This was delayed but finally we were under way at 3 pm and landed at Muscat in Oman about seven hours later. Very hot and humid, even though it was midnight local time. Our 747 had some inflight mechanical trouble (assured very "small") and we had a further delay of three hours. However, perhaps it's better to wait here in a quite comfortable lounge than in Karachi.

## WEDNESDAY

Touched down just as dawn was breaking. I am local time, in Karachi. Foolishly, I'd packed a small bottle of Scotch in my case. This was politely impounded at the customs but they would return it on my way out. Customs officer offered me a cup of tea! Struggled out of the international terminal to the domestic to catch my 8.45 flight to Peshawar. Absolute bedlam, although good natured, virtually a free fight to check in. Worse to come at Peshawar - another free fight to reclaim my luggage - I wish I didn't need to take a case. Now about 30 hours with little or no sleep.

Hired a taxi or rather he grabbed me. The passenger door wouldn't open so I climbed in through the driver's side. Driver's helper, friends? climbed in the back. Incidentally, an offer to buy bicycles politely refused! Much to my surprise we did arrive at the university, the gate being manned by a tired-looking guard armed with an old rifle. Yes, universities here also experience problems! Requested to see vice-chancellor and dean of engineering.

This caused problems - see vice-chancellor's secretary asked me to write my name and who I was on a pad. A further hour later the vice-chancellor and dean appeared. No they hadn't received a cable, they weren't expecting me. Discussions a bit frosty at first but gradually they warmed and we agreed on a plan of action for the next few days. Tomorrow they were rather busy - suited me, I needed time to absorb project documents and by now I was very tired. I asked their advice on a hotel and they booked me in at Dean's in the centre of the city. Beautiful grounds - my apartment is spacious, enough to house a family. Finally to rest.

## THURSDAY

A wet and cold day by Pakistan standards, about 15°C. Worked on project papers at hotel. Bomb went off in the Old City, fairly close to the hotel. Killed four and injured 20. It was planted in an Afghan owned restaurant. Apparently there is some fighting between the locals and the Afghan refugees. Peshawar is a frontier town less than 20 miles from the Afghan border and there is a large Afghan refugee camp just a mile from the university. The Khyber pass is just down the road. Well I wonder what's in store tomorrow and over the next two weeks!

Richard Meadows

The author is head of electronics, at the Polytechnic of North London.

## Fury mounts over 'secret' college privatization

by Felicity Jones

A plan to privatize part of a south London college has infuriated further education lecturers who claim that deals behind closed doors have been concluded without proper consultation. The Chartered Institute of Public Finance and Accountancy has been negotiating for some time with the borough council to open an education and training centre in a wing of Croydon College.

So confident was CIPFA's council that plans would go ahead that the Institute's president Mr Philip Sellers recently wrote an editorial in the house journal welcoming the decision to move into the centre.

The March 28 issue of the journal carried a job advertisement for a £27,000 head of centre and two £23,000 course directors to be based "with premises in Croydon to be operational from January 1987".

The institute was not aware, however, that approval has not yet been given by either the academic board of the college or the governing body and neither had ever discussed the matter. Mr Jack Bell, CIPFA's head of education and training, said he had received a letter from Croydon borough council early in March which said the use of Croydon College as a base for the new centre had been approved subject to general contractual agreement.

A meeting of the full council this week rubber-stamped what had already been agreed on the confidential part of the agenda of the finance and education subcommittees, subject to the governors' approval.

After the meeting Mr Eric Nash, branch chairman of the National Association of Teachers in Further and Higher Education, said it was quite wrong for the development to have reached such a final stage without

consultation. He said it would mean the loss of the teaching rooms and would put an added burden on the library which is already said by the librarian to be 50 per cent under-resourced. A spokesman for the borough council said the opening of two sites based in secondary schools left room for the CIPFA centre to move into and denied that it would lead to a shortage of teaching space.

CIPFA plans to run pre- and post-qualifying courses at the centre for clients like the National Audit Office and the civil service. The accessibility of the college to London 20 minutes from Victoria Station makes the college a major attraction.

The NAFHE branch think other issues need to be discussed which could awkward. "There will be staff employed in the same building on completely different pay and conditions of

service. You can be sure the floors will not have the usual line of tiles of the college," said Mr Nash. There will be three different salary scales for lecturers and the CIPFA course directors will earn £6,000 more than a principal lecturer.

The college governors meeting takes place this coming week when the question of leasing a public institution for private purposes will be aired for the first time.

College principal Mr Peter Phillips was unavailable for comment. A Croydon council had approved the plans subject to the agreement of the college governors.

She added that there would be a gradual move of CIPFA staff starting in January next year with initial occupation in three rooms only. Total occupation would be complete by 1988. The spokeswoman would not comment on any of the complaints.



Whitby's principal lighthouse keeper Des Sythes changing a bulb, in one of a series of photographs in England and Wales by Huw Davies, who is to be photographer in residence at Derbyshire College of Higher Education, a joint appointment with East Midlands Arts.

## Professions oppose EEC plan

by Patricia Santinelli

The majority of British professional bodies are opposed to EEC plans to give recognition to all higher education diplomas from any of the 12 member states, according to written evidence submitted to a House of Lords committee inquiring into the proposals.

The House of Lords Select Committee on Education, Employment and Social Affairs which began taking oral evidence in a fortnight's time says a very large number of the 250 bodies so far consulted wish to be excluded from the EEC directive.

The draft EEC directive for general

recognition of higher education diplomas would mean that anyone who is qualified as a teacher, for example, in any other profession could practice states, according to written evidence submitted to a House of Lords committee inquiring into the proposals.

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The draft EEC directive for general

## Potential of open learning

by Maggie Richards

Enormous potential for the expansion of open learning, both as an aid to training in Britain and as an export industry to the world, was spelt out by Lord Young, Secretary of State for Employment, this week.

His comments were followed by a warning to higher education institutions from Mr Bryan Nicholson, chairman of the Manpower Services Commission that they must board the open learning bandwagon soon, in order to survive.

Lord Young was presiding on Tuesday over the launch of what had been billed as a world first - a huge conference and exhibition staged in London over three days, and ranging across the whole gamut of open learning techniques. "Spring Open" was promoted to act as a springboard to Tech programme, and mark the fulfilment of four years of activity.

Sponsored by the Manpower Services Commission, the £45 million pump-priming programme designed to

introduce open learning systems into vocational education will finally be concluded next March. After that date Open Tech schemes are expected to become self-supporting.

The exhibition also demonstrated, through the participation of more than 100 training agencies, the extent to which open learning has become recognized as a vital ingredient of industrial and business education.

At a press briefing following the launch, Lord Young emphasized the export possibilities open learning presented.

Another facet yet to be explored, he suggested, was the use of open learning for inservice teacher training, particularly where it might be put to use to overcome current school sector shortages in mathematics and physics.

Mr Nicholson delivered a warning to higher education: "The upshot for the colleges and polytechnics is that if open learning is not in their portfolio now, they are not fully prepared to meet the challenges of the next decade."

## Leukaemia unit for Glasgow

Glasgow University is to set up a million unit, the first of its kind in the world, to conduct research on leukaemia. Funding will come from the major contributions from private and commercial benefactors in Glasgow. The Human Leukaemia Virus Centre, which will investigate the role of viruses in the cause of leukaemia, will be set up in the university's department of veterinary pathology in purpose built accommodation.

The decision to form the unit was stimulated by research conducted over the past 20 years by Professor William Jarrett and his colleagues in veterinary pathology. The studies have shown that leukaemia is usually associated with leukaemia by a type of virus which is also a cause of anaemia and an AIDS syndrome.

Once a virus has been shown to be the cause of leukaemia and AIDS, action can be taken to prevent infection by vaccination, and infection may be treated by new drugs which are being developed.

The centre, which will have a staff of 10, will be directed by Dr Gordon Piller, director of the Leukaemia Research Fund.

"This is one of the most important projects the LRF has funded since it was started 25 years ago. It is a very real step towards the cure of leukaemia and AIDS."

Scotland is uniquely placed to undertake this investigation, as the Glasgow University Leukaemia Research Group is the largest in the world working on cancer-causing viruses. It has already produced a vaccine against feline leukaemia and is collaborating with American researchers on developing vaccines against AIDS.

## Knight to the rescue

The unflappable Sir David Hancock, permanent secretary at the Department of Education and Science, was doing his best, confronted by a typically mischievous Denis Healey in Commons. Asked who his next boss was to be, Sir David offered his theory that Sir Keith "will not be long until the next election". Close advisers of the state of education in Britain today will be interested to learn that Sir Keith, according to Sir David, is "in tremendous form - I have never seen him looking fitter".

Just in case Sir David's prediction is correct, nobody tell Sir Keith about a new post which has appeared in the American university system - Co-ordinator of Academically Superior Student Recruitment.

Pennsylvania State University, which for it was losing out to the private by League institutions, has appointed Dr Tom Samet to the post, which he sees in terms of making "students, parents and teachers conscious that Penn State offers academic opportunities which can reward and challenge their best energies".

The search is on for gifted students who achieve high scores in the Scholastic Aptitude Test. Currently, students who sustain outstanding average grades receive the accolade of inclusion in the University Scholars Program which provides the elite group of high fliers a series of top class seminars, addressed by leading academics, politicians and overseas luminaries.

## Talking shop at Christmas

Unseasonal concern from Cambridge Association of University Teachers over the annual clash between the AUT winter council and the last few shopping days before Christmas.

According to Cambridge, this inconvenient timing demonstrates a sexist bias against delegates with family commitments, who find themselves unable to prepare for the holiday unless they possess a spouse.

While Cambridge wants the winter council moved into the New Year, it is more likely to add to the pressure for only one annual council meeting, saving union money, members' time, and a good deal of hot air.

(PS There are now only 199 shopping days to Christmas.)

British Telecom clearly does not believe in the ordination of women. Margaret Healey, chaplain of Brighton Polytechnic, has been receiving telephone bills addressed to "The Chaplain, do Miss".

## Close shave

Someone apparently thinks something valuable is to be found in the Committee of Vice Chancellors and Principals. It has just been burgled for the second time. The first burglary, during the winter, relieved the CUCP of its safe and petty cash, the safe eventually being recovered near the zoo in Regent's Park. By great good fortune, the administration moves so slowly that the safe has not yet been re-installed, and the latest haul amounted to some tea-bags and a shaver.

Dr Norman Peacock of Scotland's Association of University Teachers, must be a strong contender for the Scottish Trade Union Congress' most obscure conference quote, "If I can paraphrase Corinthians," he began, "without training I am as a zany zombie or a destructive Dalek."

## Researchers fear for nuclear treaty

by Peter Aspden

International relations specialists from European and American universities are concerned about the future of the nuclear non-proliferation treaty, which is due for renewal during the next decade.

A group of researchers from Southampton University, which hosted a recent conference on the issue, fears that some nations which do not wish to continue with the existing arrangements might impose unreasonable terms on the others during the renewal negotiations leading up to the 1995 extension conference.

Under the terms of the original treaty of 1970, the extension conference will decide whether to continue as at present, or whether to make any changes in the terms and conditions. Dr John Simpson, deputy director of Southampton's international policy studies centre, said the conference exposed the wide differences between national perceptions of the role and utility of the present treaty.

"It is clear that there are problems which are going to have to be tackled from now on, rather than waiting until

the last minute, or else there may not be a treaty after 1995. It is one of the key building blocks in the international system," he said.

The academics' concern takes place against a background of mounting apprehension over the future of the United Nations, which has traditionally provided a corpus of knowledge and experience in diplomacy.

The UN is facing a \$96 million shortfall out of a budget of \$800 million by the end of this year, as a result of partial withholding of assessed contributions from member nations. The United States has already announced it would cut its contributions by \$70 million.

To deal with the financial crisis, the secretary-general, Javier Perez de Cuellar, has frozen recruitment, suspended promotions for six months, deferred cost of living adjustments, imposed mandatory retirement for staff at 60 and cut overtime.

Many members of staff of the UN who might have been expected to help with delicate diplomatic negotiations over the next 10 years in the field of nuclear non-proliferation may no longer be available as a result of the cuts.

## Joint study on how rivals train

A new study is to be conducted of management education in Britain's four main competitor nations.

The study will be commissioned jointly by the National Economic Development Office and the Manpower Services Commission.

It follows hard on the heels of the announcement of another important review of management education which is to be carried out within Britain and conducted jointly by the Confederation of British Industry and the British Institute of Management.

The international survey will analyse the different ways in which management training operates in the United States, Japan, West Germany and France.

It will also investigate to what extent management training figures in the economic, commercial and industrial success of each nation, and whether schemes adopted might be profitably put to use in a British context.

Exact terms of the study have not yet been finalized. Discussions are to be held next month.

The study is being commissioned in response to two previous reports on Britain's lamentable record in the whole area of industrial training. Competence and Competition, a study of approaches to education and training, was followed by Challenges to Competency, which examined attitudes of British employers' to training.

The new study will be part of a far wider effort yet to be announced by NEDO, which will involve far more detailed inspection of the whole area of human resources within British industry. The theme will be developed in a series of workshops throughout the country with the aim of persuading industry of the value of investment in human resources, as well as in capital expenditure on machinery and materials. In particular, the development of education and training as sound investment policy will be explored.

## Aberdeen praise

A company set up by Aberdeen University to market departments' expertise in research and development, has won a commendation in the annual Scottish Offshore Export Awards.

AURIS (Aberdeen University Research and Industrial Services Ltd) was praised for its success in commercializing the university's capabilities within the offshore industry. The company has exported consultancy services to Europe, Asia, the United States, Africa and Australia.

The awards are sponsored by the Scottish Development Agency, local newspaper The Press and Journal, and British Caledonian Airways.

## Students question animal experiments

by Carolyn Dempster

A 1,000-signature petition calling for an urgent review of the use of animals in teaching and research at Cambridge University was handed to the vice-chancellor Lord Adrian this week following a mass demonstration in support of a "World Day for Laboratory Animals".

About 800 people, many of them Cambridge students, attended the animal rights protest last Saturday in a show of concern over the use of animals in behavioural and psychological experiments. Parallel demonstrations took place at Manchester and Swansea Universities.

Mr Steve McKenna, one of three student organizers of the petition, said there had been an enthusiastic student response, with 80 per cent of those people approached adding their names to the list. A high proportion of students who signed were also actively involved in animal experimentation as part of their courses but did not like certain aspects of the studies and did not know how to go about changing the status quo, he said.

It is hoped the petition will lead to a reduction in the number of animals used in experiments throughout the

university, or at least a review of university policy on animal experimentation. Another petition is to be circulated next term as the organizers had been unable to reach most of the university's 10,000 student body in the three days between the start of term and the demonstration on Saturday.

Cambridge assistant registrar Mr Geoffrey Skelsey confirmed that the petition had been taken up in discussion at council level this week and the matter had been referred to the council of the school of biological sciences. Two separate issues under debate are: whether students who refuse to participate in animal experiments because of ethical reasons should be penalized, and whether the university should adopt a specific stance on the issue.

At the University College of Swansea, three people were arrested and one window was broken when a group of demonstrators veered away from the main march and attempted to break in to the university laboratories to release animals. Senior assistant registrar Mr Robert Barnes said there were a number of Swansea students in the 1,200-strong crowd. The Manchester demonstration, which attracted in the region of 800 protesters, was peaceful.

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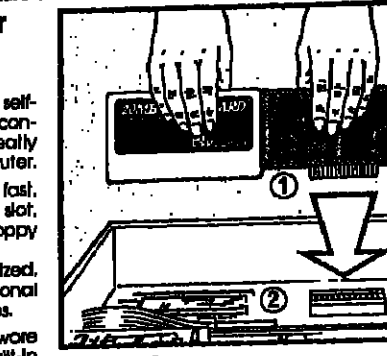
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# Forget parties, urge ILEA candidate

by Carolyn Dempster

With less than a week to go to the Inner London Education Authority elections on May 8, all the parties involved are convinced that voters are now sufficiently well informed not to vote along purely party lines.

Until recently, candidates in the 12 boroughs/29 constituencies of the ILEA area have had their work cut out explaining the difference between the ILEA and local by-elections, and impressing upon them the importance of the first direct election in a century.

Canvassing has taken place against the backdrop of a long and messy teachers' dispute, controversial Government policy and increasing concern among parents about falling standards – not to mention the patent effects of cuts in higher education spending since 1981.

The Conservative Party is so concerned about divorcing politics from educational issues that it has built its campaign around the slogan "Pupils before Politics".

Dr David Avery, the Conservative candidate for Westminster, is optimistic about his party's chances – even in Labour strongholds such as Hackney. He claims Labour has alienated significant groupings and denies that the

Government's track record in education coupled with the teachers' dispute has deterred people from voting Conservative.

Further and higher education occupies little space in the Conservative manifesto – in contrast to the attention and concern accorded it in both the SDP/Alliance and Labour ILEA manifestos. Dr Avery maintains this is because the colleges and polytechnics in the ILEA area are doing a good job.

"We don't see either colleges, polytechnics or adult education institutions as being in need of reform. The thing that is crying out to be dealt with are the problems in schools. I suppose the reason for not going into higher education in any detail, is that we have to take one step at a time. We would however like to see the polys and colleges helping to make up for the deficiencies in school education, and playing a greater role in vocational training."

Mrs Anne Sofer, spokeswoman for the SDP/Alliance, talks of an "Alliance tide" in East London, with the three key concerns among voters being Government cuts, disruption and standards.

The Alliance, ideally positioned to trade off both Labour and Conservative weaknesses has focussed on stan-

dards in the structuring of its manifesto *Working Together for London's Children*.

"The general feeling among voters we have canvassed is that education is a mess because the Government doesn't care," said Mrs Sofer. Similarly, the Alliance attacks the current Labour-led ILEA team for putting political dogma before educational priorities.

The Alliance has targeted tertiary colleges for special attention, on the basis of the present "waste and confusion" which characterises 16-19 provision. The Alliance has also urged national reform to bring education and training together in the same Ministry, and expresses dissatisfaction with the role of the Manpower Services Commission.

The falling number of 18 to 21-year-olds entering higher education creates the ideal opportunity for widening access, suggests the SDP manifesto, adding that resources should be switched to enable more flexible study.

Labour, in the London education driving seat since 1934 (with a brief break from 1967 to 1970), has taken the bit between its teeth in its bid to sweep the boards and take most of the 58 seats.

The party's *Learning for Life* man-

ifesto contains six key pledges, including a pledge to bring binary division between secondary and advanced further education to a referendum. In addition, Labour promises to review the advanced education system, and to establish a new Labour-led Grants Committee, a Bristol University report claims.

The report, by Professor Geoffrey Hodgson, says that although the current system is a fashionable one, there is still considerable doubt as to what are the most relevant performance indicators and how they should be used.

One of Labour ILEA's election aims is the representation of its candidates, 22 of whom are drawn from reserves, the trend must be reversed, or drastic action will be necessary in a few years to avoid bankruptcy.

According to Dr David Morley, executive secretary, the Association must either cut its activities or raise more money.

The association's income is currently about £24 million a year coming roughly in equal proportions from members' subscriptions, government bodies, the Royal Society, investments and private donations.

To raise more revenue the Association says that its activities must be completely reviewed. To this end, the Association is to produce a research council-style "me-too" corporate plan.

It is proposed that there will be a change of emphasis in the Association brief. Dr Morley admits that the Association has been "a bit laid back about the advancement of science bit".

The document stresses that the

# JGC value-for-money indicators 'misguided'

Peter Aspden

The use of performance indicators as a measure of a university's success is an art, involving a good deal of guesswork, and curbing the straight-forward way urged by the University Grants Committee, a Bristol University report claims.

The report, by Professor Geoffrey Hodgson, says that although the current system is a fashionable one, there is still considerable doubt as to what are the most relevant performance indicators and how they should be used.

Output measures in particular are not amenable to measurement in a single homogeneous unit such as money, and some input measures, such as expenditure on research funds, were already used as proxies for output, which confused the picture.

"It is extremely difficult to tie all performance measures together in a single overall performance measure analogous to the profit and loss account of a private business, and hopes that value for money can be measured in such straightforward terms in universities are probably misguided," the report claims.

It says that even the "natural mea-

# Salvation Army plea on college

by Olga Wojtus

Scottish Correspondent

The Salvation Army is urging the Scottish Office not to axe Dundee College of Education.

The Scottish Education Department is currently considering responses to the Scottish Tertiary Education Advisory Council's report, which proposed axing three of Scotland's seven education colleges.

STEAC refused to say which colleges should be closed, but warned the SED that there was an urgent need for rationalization.

However, Lieutenant-Colonel Trevor Tribble, secretary for personnel and training at the Salvation Army's social services headquarters, has written to the SED urging it to consider more than simply the teacher training element of the college when deciding its future.

The Salvation Army's social services branch is committed to a heavy training programme for staff in order to provide the best possible service for the community, says Lt-Col Tribble. It already uses and intends to continue to use a number of Dundee courses in its training programme.

"Without Dundee College there would be no centre for social work training and education in this area, and it is not practical for our students to look to other areas such as Aberdeen and Inverness or other courses in Edinburgh," he writes.

A plea for the retention of Craigie College of Education in Ayr has come from the Church of Scotland's Presbytery of Irvine and Kilmarlock.

The presbytery warns that Craigie should not be closed because of its strategic geographical location. Its resources are available not only to schools, but also to many members of the general public as well as other bodies and institutions.

The presbytery adds that Craigie has the lowest unit costs, the highest proportion of applications to places, and the highest employment rate among the education colleges.

STEAC's proposals for the colleges came under strong attack at the Scottish Trades Union Congress in Aberdeen last week.

Mr George Livingstone, chairman of the Association of Lecturers in Colleges of Education in Scotland, said the numbers of students entering teacher training were set to rise by 50 per cent over the next five years.

There were "lies, damned lies, statistics and Scottish Office statistics," and he promised the SED a "brutal battle" if any colleges were closed.

Dr Norman Pencock of the Association of University Teachers (Scotland) said he had little faith in STEAC, although it was a shining light compared to the Government's Green paper on higher education.

"It goes badly off the rails in relation to teacher training," he said.

Mr Jim Thomson of the Educational Institute of Scotland said the participation rate in the UK compared extremely badly with the rest of the world and added: "What we are faced with is education for a ruling elite where even the middle classes will not have access to higher education."

# Pyramid selling

Two final year students at Salford University have devised a plan to take Arabic to the Arabs with a computer programme for children.

Dan Lingard and Hamed Al Ravalhi have set themselves up as a limited company with the university's approval and plan to tour the Middle East, specifically the southern end of the Arabian peninsula, with a mobile high technology centre.

The software which they have developed is based on a limited version of Basic and produced in Arabic.

# Data available

A national manpower database is now online at the University of Durham. Run under contract from the Manpower Services Commission, the computational system, NOMIS, provides access to official unemployment and job vacancy statistics countrywide. It will be used by most Government bodies including the DTI, the Welsh Office, the Scottish Development Agency, the House of Commons and research units in universities and polytechnics.

# Licence to trade for Scots colleges

Scottish further education colleges will be able to trade in the market place if the recommendations of a new Government consultative paper are implemented.

The Secretary of State for Scotland, Mr Malcolm Rifkind, yesterday issued *Commercial Activities in Local Further Education Colleges in Scotland* which claims that the sale of services by colleges would help local industry as well as college staff and students. The paper points out that legislation would be needed, along the lines of a similar Act passed last year by which English and Welsh colleges were empowered to go into commerce.

# Union resists TVEI

The council of the Educational Institute of Scotland has voted to cooperate with the Technical and Vocational Education Institute – but only if absolutely necessary. The 71 to 42 vote followed an hour-long debate, with the majority supporting a paper from the EIS education committee which urged TVEI as educationally unsound. The union will now urge its regional executives to make every effort to resist TVEI but if that is not possible, to negotiate eight safeguards.

# Managing women

A new access course aimed at helping women break into industrial management is being run on a pilot basis by the Open University. The eight-week course *Women into Management* is to be launched in September in London and Leeds. Topics will include self-awareness, sustaining motivation, skills identification and development, assertiveness, and coping with stress.

# Backing for Goldsmiths to seek full status

by Peter Aspden

Goldsmiths' College should be given the full status of a grant-receiving school of London University, or else seek its future outside the university altogether and become part of the public sector, urges a report on the college's future.

The report of a working group chaired by Mr William McCall, general secretary of the Institution of Professional Civil Servants and a court member, recommends that the college stays part of the university because of its "distinctive contribution" to London.

That includes a provision for subjects under-represented in the rest of the university, a diverse student mix and an educational style which gives prominence to its response to the local community.

But the report says the college should restrict some of its teaching in the physical and biological sciences, so that it could fit in with the university's plan to base its science on five main sites.

The report looks set to end nearly 20 years of speculation over the future of the college, which the report says has inhibited academic developments. It has already had the approval of the university's planning committee and the college's own academic policy committee.

If the report is not accepted, however, the working group says Goldsmiths' should leave the university. "Change is now inevitable. If our proposals are rejected, the college should seek its future outside the university, as an institution coming under the resource and planning aegis of the National Advisory Body, and the university should provide what assistance it can to facilitate such a change."

The college would face additional costs of about £200,000 to become a school of the university, because of the transition to higher salary scales. The report says it would be unrealistic to expect the Department of Education and Science to meet the extra costs.



Bradford barricade: Maurice McKelvey, a student at Bradford Community College, drapes a banner in protest at the council's 2000th anniversary celebrations. He was one of eight students who barricaded themselves into the council's 2000th anniversary celebrations.

# Ulster reviews disabled policy in face of legal action

by David Jobbins

The University of Ulster is urgently reviewing its employment practices for disabled people in the face of possible legal action following its failure to give special consideration to a blind lecturer whose contract was at an end.

Although the university was cleared of allegations that it had unfairly dismissed the lecturer, Mr Brendan Glover, who has been blind since 1956, it was criticised for its apparent ignorance of legislation governing the employment of disabled persons.

The tribunal found that Mr Glover, who had not told the university he was registered disabled, was dismissed because his contract had ended.

It considered a claim lodged on Mr Glover's behalf by the Association of University Teachers that the university had acted unfairly and unreasonably by not appointing Mr Glover to one of four jobs for which he applied in the period before the expiry of his second fixed-term contract with the university.

Mr Glover was shortlisted for three of the jobs but was not appointed. "The tribunal is satisfied that there was nothing intrinsically improper about the way the appointments were made," it said in a reserved judgment. But it added: "It is to be deprecated that an employer the size of the university should be so totally unaware of its obligations under the Disabled Persons (Employment) Act and it may well be that its failure to meet the obligations imposed by those Acts could be the subject of other proceedings."

An AUT official confirmed that the union was taking legal action against the university for failing to meet the requirements of the Acts, which establish a quota of disabled employees and set out conditions affecting their employment and dismissal, could be taken.

Professor James Magowan, Ulster's dean of external affairs, said:

"Appropriate officers are and will be examining the judgment to determine whatever steps are to be taken to ensure we do conform with the letter and spirit of the law."

The tribunal said that although it was unfortunate that Mr Glover failed to convince the appointment panel, it was the best candidate for the job. The university's failure to do so was unfair.

"The tribunal is not satisfied on the evidence before it that Mr Glover's disability was a determining factor in the university's failure to appoint him."

# First for IT development

A commercially-run Institute of Information Technology has been set up in collaboration with Cranfield Institute of Technology to provide postgraduate, retraining and short update IT courses.

The Institute at Blechley near Milton Keynes plans to provide facilities for 200 postgraduate students and 4,000 short course students within five years starting from September.

Sir Henry Chilver, vice-chancellor of Cranfield, which will retain a strategic financial interest in the Institute, described it as "the first industry-funded higher education establishment of its kind devoted entirely to the teaching and development of information technology".

In place of a vice-chancellor and senate, the institute will be governed by a board of directors and a managing director.

# Accountants delay exam

The Institute of Chartered Accountants is to delay the introduction of its new professional examinations by six months to allow training organizations more time to prepare.

The first sittings of the new professional examinations PE1 and PE2 will now be held in November 1988 and December 1989.

Proposals for the new examination structure which involve changes at foundation stage, as well as at professional examination level, were first put forward last year. According to the Institute which has now collated all responses, they have been welcomed with the exception of the timetable for implementation.

The new structure is designed not only to reflect the changing nature of the work undertaken by chartered accountants but also to reduce the amount of study required in the last stage at PE2 when the demands of work experience are greatest.

As a result trainee chartered accountants will now only sit four subjects at PE2 auditing, financial accounting and management and tax. Management accounting has now been moved to the first part and will also be studied at foundation stage.

At PE1 level, trainees will sit five subjects, excluding accounting techniques and data processing. The latter, to reflect changing times, is to be emphasized at foundation stage where six subjects have to be covered.

The extra subjects at foundation stage will, however, increase the study time required on conversion courses taken by graduates with non-relevant degrees. Exempt graduates and foundation course students are expected to cover the extra subjects during their full-time academic studies.

The new syllabus is designed to be adaptable to any new education and training structure. It plans to issue a new policy statement in this area by late summer. It is understood that a significant feature will be proposals for concentrating theoretical studies and examinations with some practical training in one block.

# Better balance urged in adult education

by Maggie Richards

The dilemma facing adult educators in pursuing objectives with the disadvantaged at the expense of more traditional provision is highlighted in a report on Sheffield's adult education service by HM Inspectors.

While praising the local education authority's efforts to involve disadvantaged groups, the inspectors report that the effect has been to reduce enrolments and create a new gap in provision for adults not falling into the disadvantaged category.

HMI suggests that encouragement should be given to these students to develop more independent learning. It recommends improvements in staff and management training techniques to obtain a better balance between the two.

The report says changes which have taken place since the introduction of a policy favouring the disadvantaged, have created problems, given existing financial constraints, of curtailing educational opportunity for some members of the community in order to increase it for others.

A serious conflict has also arisen between the demands of outreach work and the needs of a more general programme. Different management skills are needed to cope with a new type of less-motivated student.

Difficulties had also occurred because of the effects upon the morale of some staff, and concern that the ultimate effect of the current policy will be to reduce adult education to a remedial service.

Training and staff development would benefit from a city-wide emphasis, and it is in this area of evaluating the quality of the service that the most urgent need exists, the report concludes.

Tribute is paid to the work of three external agencies: Sheffield University, the Workers' Educational Association, and Sheffield City Polytechnic for its "notable commitment" to the needs of mature students.

# Degree of talent is formality

John French (pictured above), only a few days after his 50th birthday, has passed his examination for a PhD degree at Aberdeen University – the first formal qualification he has gained since leaving school at 15 without taking any exams.

He was admitted as a part-time student, taking into account books and papers he had written as evidence of academic ability, but proved such an outstanding student that he continued straight through to a doctorate.

Dr French, whose thesis was entit-

led "Satellite technology for tracking birds and sea mammals", has developed new techniques which will revolutionize conservation studies by enabling zoologists to track long-distance migrating animals all over the world. Dr French is seen here in Aberdeen's zoology department museum, holding a transmitter which he designed and built during his research. It was used by the Sea Mammals Research Unit at Cambridge to follow the track of a seal in the North Sea a few months ago. The package transmitted a signal which could be picked up by satellite.



# Ideas for Industry

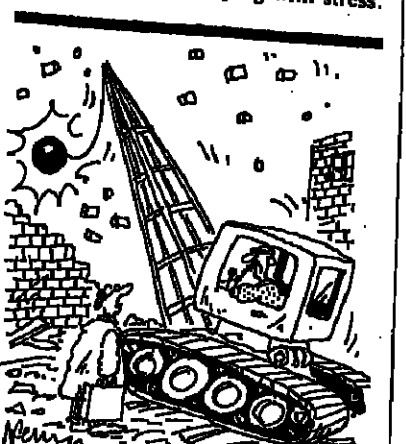


The Pollution Abatement Technology Award aims to identify, encourage and publicise innovation and efficiency in technology to reduce or avoid pollution. The Scheme is sponsored by the Environment Foundation, and promoted by the CBI, Department of the Environment and Royal Society of Arts.

There are two categories for the 1988 Scheme. Specially for 1986, which is Industry Year, the Award will have a new category – Ideas for Industry – for suggestions, studies or prototypes for technologies to abate any kind of pollution. There will also be the original category for developed technologies. Entry is open to all, from school pupils to college professors, from potting shed inventors to multinationals. Submissions must be received by the RSA by 9th June 1988.

Further details and entry forms may be obtained from: The Pollution Abatement Technology Award (THES), Royal Society of Arts, John Adam Street, Adelphi, London WC2N 6EZ.

العلم في الآلة



"WE WERE WONDERING IF YOU'D LIKE TO BE SECRETARY OF STATE FOR EDUCATION?"



# Industry urged to protect knowledge

by Jeremy Sutcliffe

A plea for the preservation of Britain's higher education system has gone out to some of the north's top industries. "The people who know best about technological development are the people in the education system who are at the frontiers of knowledge. People had better get used to that," Lord Dainton, chancellor of Sheffield University, told 400 industrialists and academics, at a conference at the university.

But Lord Dainton also had a tough message for British inventors, who in the past have lost billions of pounds by failing to develop world-beating products. "Winning ideas originated in this country, such as penicillin, polythene, and the body scanner, were all developed commercially abroad," he said.

Lord Dainton's warning followed a similar message from Professor Martin Black, head of the department of medical physics and clinical engineering at Sheffield University, who said British academics should take more responsibility for developing their own inventions as commercial propositions. "Time and time again we invent something only to lose it. It is about time we made a profit from our own inventions and not gave them away to someone else," he said.

They were speaking at a one-day conference on Industrial Innovation from Academic Research organized by the British Technology Group at the university's Octagon Centre. The BTG, formed by the merger of the National Research Development Council and the National Enterprise

Board as a private investment company, aims to help research done in higher education and industry develop ideas into commercial projects. It currently invests £15 million a year in new technology.

Lord Dainton said that the new information revolution would bring even greater change than the industrial revolution. "To succeed in this new and more challenging world we have to exploit the knowledge which exists. We have to ensure our education system makes people flexible, resilient and self-confident," he said.

"We need to keep our education system intact. You cannot tap the new knowledge of the world unless you are part of it."

But it was not enough to contribute to the world stock of knowledge. Britain needed to establish a mechanism which would identify ideas which would sell.

"It is no good saying the sheer act of invention is enough. We need to be able to manufacture it. We also need to get to the worldwide knowledge base and that means we need someone with the local knowledge to do it. And we need enough patience to develop our inventions. If we do not then the Japanese, the Germans, and even the Chinese surely will."

The aim of the conference, one of a series of regional meetings between higher education and industry planned by the BTG, aims to improve contacts between the two sides.

About 150 companies, banks and financial institutions sent representatives to the conference, including Boots, British Aerospace, and ICI.

# Viva Britain's hispanists, says



King Juan Carlos with the Earl of Stockton. Picture: Rob Judges

On the anniversary of Cervantes the world's hispanists for their 'rich' to Spanish literature.

King Juan Carlos was the hispanist, the teachers of Spanish at Spain during his visit.

He said that Britain's undertaken important work on the classical authors. Late directed their interests to temporary literature and generations of 18th to 19th century.

"It is very pleasing to see the interest of such eminent British hispanists in the study of Spanish literature and inspiration on our literature, major poets of the Age, classical theatre, Cervantes that their work, being a mere summary of the native interpretation brought about a better understanding and a rich contribution to the world of letters," said the King.

The interest in modern literature became greater country after the second war. "In this field too British has produced mature studies on Galdos, Antonio, Baroja and Unamuno."

King Juan Carlos made mention of the polytechnic adapting the hispanist technical and economic needs. "We have recognized the command of Spanish for promotion and strengthening of relations on technical, social and financial cooperation."

He applauded the position which the hispanists adopted through the years the relations were weak between the two countries.

He said it was necessary to study the Spanish language and literature.

The appearance of distinguished British pressors and scholars who have dedicated their lives to studying and widening our understanding of the language of Cervantes to parts of the world stands as testimony that we are only one link in a chain of the 300 million Spanish speakers, he concluded.

Later in the state visit the King received an honorary degree of doctor of civil law from the Earl of Stockton, chancellor of Oxford University.

# Australians pioneer distance learning deal

from Geoff Maslen

MELBOURNE

Australian university has signed a 200,000 (£95,000) contract to the nine southern African states on developing distance education program.

Deakin University in Geelong, near Melbourne, has obtained the contract to develop a distance education program with several large institutions, no doubt because of its years of experience in providing education programmes or its external students who form the majority of those enrolled.

The Deakin tender was the highest bid for the job which, according to the university, suggests that in seeking to develop educational services and to offer overseas, quality is an important selling point.

The former vice-chancellor of Deakin, Professor Fredjevons, will lead a team of three academics to visit the countries this month to look at ways of expanding secondary and higher education in the region.

The nine nations have a combined population of 50 million and include Angola, Botswana, Mozambique, Zambia and Zimbabwe. The nine nations have a combined population of 50 million and include Angola, Botswana, Mozambique, Zambia and Zimbabwe.

Professor Fredjevons said: "We will be helping the poorest region in the world to become more independent. There are enormous needs to be filled for teachers and for skills in food production, health, and so on."

He said the distance education project was being financed by the Commonwealth Fund for Technical Co-operation, part of the Commonwealth Secretariat.

According to the Deakin team, the governments of the region acknowledge that the expansion of both secondary and tertiary education opportunities within the existing structure of conventional, formal education systems must be restricted.

Professor Fredjevons said distance education using a combination of delivery systems—printed material, radio and television classes and study centres away from the base institution—offered possible solutions to the problem.

The team will hold a planning workshop in May after investigating existing educational provisions and a final meeting in September.

On the other side of Australia, Murdoch University in Perth has pulled out of a project to set up a "private" campus at Yanachup Sun City, a Japanese-financed development north of Perth.

The vice-chancellor of Murdoch, Professor Peter Boyce, recommended to his council that the deal with Tokyo, a large Japanese corporation, should not go ahead.

The project was intended to market Australian higher education courses in south-east Asian countries by accepting foreign, fee-paying students. Plans will still go ahead to admit full-fee paying students from overseas countries to courses on Murdoch's main campus.

Altogether, some 5,800 students took the latest exam. The results show that some 80 per cent of whites achieved a passing grade on all three sections. For blacks, the figure ranged between 42 and 60 per cent, while those of Puerto Rican extraction could only manage between 36 and 50 per cent.

Though Mr van Ryn claims that every effort was made to ensure that the examinations were free from cultural bias, this is disputed by black and hispanic advocacy groups.

Harriet Michel, president of the mainly black New York Urban League, said the test results were disappointing. "But before we make any assumptions about the skills levels of minority teachers," she added, "we also have to examine the institutions that produced the teachers."

The needs of employers are not necessarily compatible with the needs of students or society at large. It is a vicious circle not based on any vague ideological opposition to the future needs of an industrial society, it stresses, but it takes issue with the way we perceive as an imbalanced emphasis in government policy which is the future role of education in developing individuals in terms of their value as a commodity in a free market rather than their overall contribution to society.

OVERSEAS NEWS

# Exam cheating widespread

from A. S. Abraham

BOMBAY

Bombay University's marks scandal, which has seen the humiliating exit of the local state governor, who doubles as chancellor, and the chief minister has climaxed a series of exam irregularities in the commerce, medicine and ayurveda (indigenous medicine) faculties.

These disciplines are generally considered "lucrative" because the competition to qualify in these fields is intense and candidates are prepared to pay extraordinary sums of money to corrupt examiners.

As a result, the university's certification is now one of the least valued in the country, especially as far as doctors, engineers and accountants go.

Maharashtra state, of which Bombay is the capital, once had an exemplary reputation for the conduct of exams, but recently has seen corruption creep into schools. The March 1985 higher secondary examinations became notorious for the wholesale manipulation of marks in physics, chemistry, mathematics and biology.

The organizing board had to scrutinize the mark sheets of all those scoring more than 85 per cent, whose number was legion, and discovered these unusually high totals were mostly the result of Rs15,000-25,000 bribes (£800-1,400) depending on the number of subjects and on how many marks were to be added.

But exam corruption is not peculiar to either Bombay city or Maharashtra state. Some influential members of the senate and the syndicate in Utkal University, the oldest in the eastern state of Orissa, manipulated the marks of students with powerful parents in March 1983. In return, they were favoured either with big money or

other benefits. What is surprising is the examination controller's failure to detect the fraud. Reliable sources insist that the controller was conniving because of the involvement of the chancellor, vice-chancellor and state political leaders.

Four MBA students at Anna University in the southern state of Tamil Nadu who should have repeated a course, or at least reappraised for that paper in March 1984, were declared to have passed and awarded degrees. It was alleged this was done primarily to salvage one who was the son of an influential professor at the university.

Of an estimated 40,000 students in the central state of Madhya Pradesh who appeared for Bhopal University's annual examination in 1984, roughly 5,000 applied for revaluation. Of the 3,678 results declared up to end of October, 1,117 students (30.37 per cent) had got revised marks.

There are allegations of tampering with marks which, according to one university source, was a fairly well-planned operation. Students also believe that "pull" works or, failing that, money. The racket goes on unchecked because the children of officials and politicians are among those to have benefited.

A committee of inquiry set up to examine the 1984 MBBS entrance exam answer books of Maharashtra Dayanand University, Rohtak, in the north-western state of Haryana, has in the first two days of work unearthed a stack of evidence which squarely implicates the then vice-chancellor and current Congress MP, Mr Hardwari Lal, in mass falsification of results this February.

Among the solutions being offered to curb examination corruption is not to appoint politicians as university chancellors. Under the Indian constitution, the governor of a state automatically becomes the chancellor of all its universities.

This was unacceptable when governors were chosen for their conspicuous contribution to public life in all fields. They were usually men of eminence and commanded enormous respect.

Gradually, however, governorships came to be given to put aged or inconvenient politicians out to pasture. Frustrated but still ambitious, it was not surprising that they conducted their affairs as the politicians they still were.

Universities, despite their putative autonomy, became an important field for gubernatorial intervention because they offered tremendous scope for extending political patronage. Governors intervened more and more in university affairs, especially senior appointments and the composition of crucial university bodies.

They often exceeded their statutory limits and ensured that universities were controlled by officials who owed their positions to the politicians who had appointed them.

The separation of university chancellors from gubernatorial office will no doubt help in cleaning up the universities. But its inadequacy is that it addresses the symptom rather than the cause of the ailment. The main reason for campus corruption is that demand has long outstripped supply.

Modern Indian higher education began 130 years ago as a formal structure based on an examining university to which a number of colleges were affiliated and that is what remains. Expansion has meant in the main either an increase in the number of affiliated colleges, leading to gargantuan universities, or the opening of more universities on the same pattern.

# Tougher union line on transbinary mergers

by David Jobbins

The college lecturers' union is to strive to represent members whose institutions are merged with universities in a dramatic reversal of its previous policies.

In any future merger which crosses the binary line, the National Association of Teachers in Further and Higher Education says that it will seek negotiating rights on behalf of staff from the public sector college.

The decision, taken by its national council earlier this year, will bring it into almost certain conflicts with the Association of University Teachers. In the one merger so far, which created the University of Ulster in 1984, Nafthe agreed to surrender its negotiating and representational rights

to the AUT. But its arch rival, the Association of Polytechnic Teachers did not, even amending its rules to permit university staff to belong.

A policy document distributed to Nafthe branches says that the agreement did not "yield the representation for those further in the public sector that they would have had if Nafthe had continued to look after their interests."

"They have been more vulnerable to redundancy and less able to obtain the jobs of greatest responsibility (or salary) in the merged institutions."

The agreement over Ulster, where the TUC-Brightling agreement does not apply, allowed for a transitional period during which both unions would operate in tandem but that after a period Nafthe would leave its members to be represented by the AUT.

But the new policy document says: "Nafthe will not, under any circumstances, relinquish responsibility for its own members. They will not, on a future occasion, be passed on to another union."

And it emphasizes that Nafthe will seek full negotiating rights for its members, and will not recognize the claims of any other union to represent its members.

Nafthe is also to insist that in all future negotiations over transbinary mergers a full-time official, preferably from the union's headquarters staff, will represent the union.

Outside Northern Ireland, transbinary mergers are already showing their "seamy" side, being lengthy and complicated affairs. Governors of North Staffordshire Polytechnic, which is the subject of a merger proposal with the University of Keele, last week breathed life into what had been written off in many quarters as a moribund if not already-dead proposal.

They subtly adjusted a tough stance adopted by the polytechnic's academic board and left the door open for further talks with the university on the possibility of creating a new institution — but they emphasized it would have to resemble a polytechnic much more closely than the model set out in the working party report.

And they called for a report by the end of 1986 on whether their aims can be achieved, reflecting any response on funding from the University Grants Committee and the National Advisory

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# Poor marks for blacks

Black and hispanic college students in New York State who want to become teachers are failing their certification tests at a far higher rate than their white peers. For the first time, the state department of education has analysed the results racially.

Mike van Ryn, assistant commissioner for higher education services, says: "The results are unfortunately consistent with what other states are finding as well; namely that white students have a higher pass rate than students from other ethnic groups."

The New York certification test consists of three examinations prepared by the educational testing service, covering communications skills, general knowledge and professional knowledge. It has been a requirement for new teachers since 1984.

Altogether, some 5,800 students took the latest exam. The results show that some 80 per cent of whites achieved a passing grade on all three sections. For blacks, the figure ranged between 42 and 60 per cent, while those of Puerto Rican extraction could only manage between 36 and 50 per cent.

Though Mr van Ryn claims that every effort was made to ensure that the examinations were free from cultural bias, this is disputed by black and hispanic advocacy groups.

Harriet Michel, president of the mainly black New York Urban League, said the test results were disappointing. "But before we make any assumptions about the skills levels of minority teachers," she added, "we also have to examine the institutions that produced the teachers."

The needs of employers are not necessarily compatible with the needs of students or society at large. It is a vicious circle not based on any vague ideological opposition to the future needs of an industrial society, it stresses, but it takes issue with the way we perceive as an imbalanced emphasis in government policy which is the future role of education in developing individuals in terms of their value as a commodity in a free market rather than their overall contribution to society.

The universities of Copenhagen and Aarhus plan to open Denmark's first science parks this autumn, several years behind Norway and Sweden and other western European countries including Britain.

With Denmark allegedly lagging behind on advanced technological research, the two new science parks are expected to provide the country with a much-needed platform for closer research co-operation between academe and industry, such as neighbouring Sweden has enjoyed at Scandinavia's first-ever and successful science park, the University of Lund's so-called Ideon centre, established in 1983.

The university in Aarhus, Denmark's second city, which is situated on the Jutland peninsula, seems set to establish Denmark's first park, on a campus site, in September.

# Concerted health plan

from William Norris

WASHINGTON

Playing music can be hazardous to your health. Not many people know that, but at the University of California's San Francisco campus they are taking the problems of trumpet player's lip and violinist's elbow seriously. So seriously that they have set up a special unit devoted to the physical and psychological problems of performers.

Many of the doctors involved are themselves musicians — a fact which is claimed to give them a special empathy in dealing with the often subtle complaints of their artistic patients. They may spend two hours or more listening to them play their instruments before reaching a diagnosis.

Dr Michael Charness, pianist and neurologist, explains: "When the person complaining about a hand or arm problem is a musician, a clinical exam and a standard nerve and muscle test may not show much. Musicians require such complex muscle control that a small problem can prevent them from playing. You often need to watch a person play before you can see the problem."

"You have to treat the musician together with the instrument," adds violinist and psychiatrist Dr Peter Ostwald, who recently published a psychobiography of Robert Schumann. Dr Ostwald began planning the new science after attending a conference on biology or music-making in 1984. Initially, he only had the support of Dr Charness and another pianist-neurologist, Frank Wilson. Now there are 25 doctor-musicians working on the programme. They include a hand surgeon who is a jazz saxophonist and clarinet player, and a dentist who not only plays the classical violin but also the double bass in a jazz band.

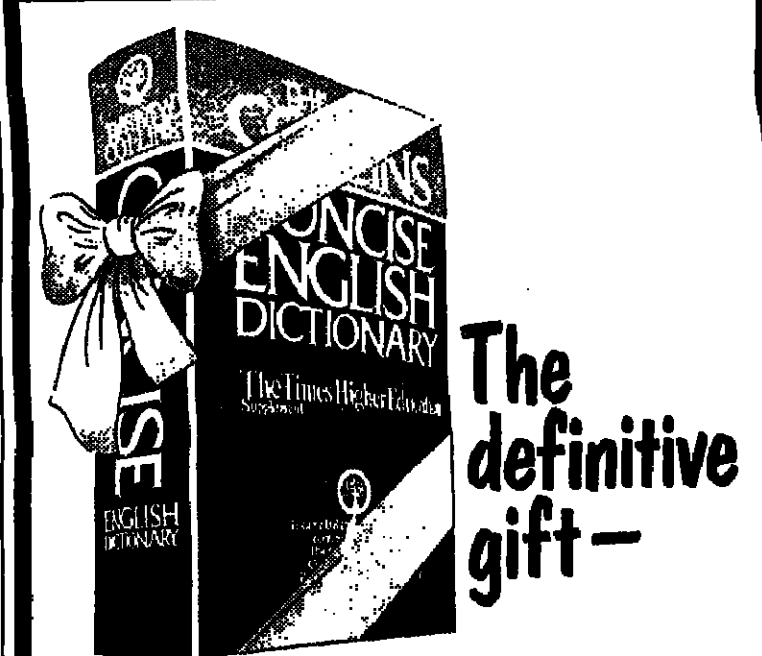
As well as suffering muscle spasms, tendonitis and fatigue, musicians are likely to be ambitious and sensitive over-achievers which makes them prone to performance anxiety, emotional problems and depression. At San Francisco they cope with the lot. "We're trying to get away from the body-mind dichotomy, thinking 'It's either one or the other,'" says Dr Ostwald.

The research aspect is not being forgotten. Dr Wilson, who sees parallels between this project and sports medicine, says: "We want to see what artists can tell us about how the brain and musculoskeletal system work together. When you play an instrument you are controlling tiny muscles you can barely see and movements so fast you can't detect them. Performing arts medicine may tell us a lot about normal physiology, and that's exciting."

Violinist's elbow is a serious problem

Violinist's elbow is a serious problem

Violinist's elbow is a serious problem



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## Polish PhDs toe party line

Higher degrees in Poland will from now on require specific party approval, according to a source from within the Polish Academy of Sciences.

Since 1982, when under martial law formal university courses leading to a PhD were suspended, there have been effectively only two ways to work for a higher degree in Poland. One is to take a university post as junior assistant lecturer, and the other is to carry out research in one of the institutes of the Polish Academy of Sciences.

Since the number of university posts linked to the government-imposed maximum student intake, which has been considerably reduced over the past five years, this first option is open to relatively few. The academy network is thus at present, effectively the only path to a PhD and the still higher

degree of *Doctor Habilitatus*.

Until now the awarding of higher degrees was decided by the research council of the relevant Academy Institute. At the end of March, however, Dr Zdzisław Kaczmarski, academic secretary of the Polish Academy of Sciences, informed the various institutes of the academy that the final decision would be taken by him after studying a confidential report on the candidate drawn up by the Communist party organization in the institute where the candidate worked. The research councils are prohibited from seeing reports.

Kaczmarski is a government appointee, with ministerial rank, responsible directly to the Prime Minister, and not to his fellow academicians.

During the Solidarity period, there

was a campaign within the academy to change the law so that the academic secretary would be responsible to the institution only. The relevant bill was still under discussion when Martial Law was declared in December 1982, and the present official view is that no change is necessary.

According to academy sources, the new ruling has been vehemently attacked from within the institute research councils on the grounds that it is an attack not only on the independence of the research councils, but also a restriction of the personal freedom of the individual members of those councils who, until now, have awarded degrees on academic merit.

It is felt that Kaczmarski will merely rubber-stamp party recommendations.



## Falwell censors his students

Freedom at Liberty University, the fundamentalist college established by the Rev Jerry Falwell in Lynchburg, Virginia, has always had its limitations. For the most part these have concerned such activities as meeting the opposite sex and drinking beer, and his born-again students have accepted them without much complaint.

But now Mr Falwell has gone further: he has begun to censor articles in the *Liberty Champion*, the college's weekly newspaper, and the students have begun to wonder just what Liberty means.

The *Champion's* offence had nothing to do with morality or Christianity. Rather, it sought to write about the other subject dear to Mr Falwell's heart: his business activities. Specifically, its reporters wrote two articles about his intention to sack 225 employees of the Moral Majority ministry, and linked the dismissals to his recent purchase of a satellite television network. The clear implication was that he was financially over-committed.

Falwell got wind of the articles and ordered them pulled from the paper before publication. Some claimed that he threatened to close the *Champion* down, though this was later denied. At all events, the student journalists proved to be a little less biddable than he expected at Liberty University, and promptly leaked the story to the local press.

There was much embarrassment. A leak inquiry was instituted, and then dropped when that leaked too. A spokesman for the Moral Majority founder claimed that he had acted within his rights as the owner of the paper to decide what it should publish.

Other austerity plans are in the pipeline at Liberty: scholarships are to be cut, fees increased, and the toll-free telephone line abandoned. Falwell claims that all this is due to the \$14 million spent on the new construction at the university during the past two years, and has nothing to do with his purchase of the National Christian Network in Cocoa, Florida.

## Intellectuals detained to quell criticisms

from Wachira Kigotho

NAIROBI Kenyan intellectuals are nearing the brunt of an orchestrated campaign to quell criticism of government policies. Since mid-March, two lecturers have been detained, another has been jailed for four years for possessing seditious publications and others picked up by police without appearing in court or being served with detention orders.

The detention of Mr Ngũgũ Kariuki came to light when his wife filed a habeas corpus application in the high court seeking to have her husband produced in court or released from police custody.

Until his detention Mr Ngũgũ Kariuki was a lecturer at East and Southern Africa Management Institute, based in Arusha in neighbouring Tanzania. Mr Kariuki who is regarded as a tax specialist was at one time senior lecturer and dean of faculty of commerce of the University of Nairobi. He was arrested on March 6, but his whereabouts remained secret until habeas corpus application was filed.

The other lecturer whose detention order was signed on March 26 was Mr Kariuki Gathitu. He was a lecturer in computer science studies at the University of Nairobi. According to Mrs Gathitu, her husband was arrested on March 7 after police searched their home. Mr Gathitu had only recently returned from Britain after completing an MSc at Glasgow University.

The detention of the two lecturers is being connected with the emergence of a dissident group which has been publishing and distributing "seditious literature" in Nairobi. On April 2, a sentenced lecturer at Kenya Teachers College to five years imprisonment for possessing anti-government pamphlets. The two publications concerned, *Mpanishi* (Peace-maker

or Unifier) and *Mwakanya* were intended to bring into hatred or contempt or excite disaffection against the government of Kenya, according to the chief magistrate.

A former student of Kenyatta University, Mr George Shitichi was also sentenced to 18 months for his failure to disavow the existence of a group government was running.

A senior technician from the University of Nairobi was jailed for four years for possession of another in the *Mpanishi* series. The chief magistrate Mr Buch said that the two "documents were manifestly seditious and detrimental to the security of the state".

In another development the police have arrested a former university of Nairobi lecturer Mr Mukuru Ngũgũ who was making preparations to leave the country to go to Tanzania, where he had been offered a lectureship at the University of Dar-es-Salaam. The lecturer had been given travel documents the previous day after persistent appeals to the immigration department to give back his passport.

A former student leader in the university of Nairobi Mr Julius Mwandawiro Mghanga and his younger brother Mr Ndawiro Mghanga have been taken into detention. The younger Mghanga is an agricultural student at Egerton Agricultural College, Njoro.

Mr Mwandawiro Mghanga left prison in December last year after serving one year in prison. He was convicted in February last year of convening an unlawful assembly at the university campus. Presently Mr Mghanga is a secondary headmaster near his home in Taveta. Ngũgũ, too, had been making preparations to move out of the country after a long struggle to obtain travel documents.

## University group fights asbestos manufacturers

from William Morris

WASHINGTON American universities, which face costs of up to \$8 million each for the removal of cancer-causing asbestos from their ageing buildings, are joining the rush to litigation against the asbestos manufacturers. Some two dozen colleges belonging to the American Council on Education (ACE) have joined in a lawsuit which would compel removal of the hazardous material, and ACE is urging more than 2,000 others to sign on.

The potential damages involved are staggering. One relatively small institution, Mercer University in Macon, Georgia, has already been awarded \$400,000 plus punitive damages of \$2 million, in an action against two manufacturers. Basing its case on inter-office correspondence going back as far as the 1940s, Mercer claimed that the manufacturers knew the danger of asbestos but sold it without warning. The manufacturers concerned, W. R. Grace and the National Gypsum Co, are appealing the verdict. Mercer's award might have been

even greater, had not a large part of its case been ruled out under Georgia's statute of limitations. The university had claimed for the cost of renovating 16 buildings - which it says will cost \$3 million - but was only allowed to sue for three because the judge ruled that it had known about the problem in the action.

ACE is urging its members not to get caught in the same trap, and to join in the action quickly. Many states have statutes of limitation which began ticking at the moment the colleges should have known of their obligation to remove asbestos and estimated its cost. The material was outlawed in 1970, and the time expired in some places.

Since the federal government ordered all materials containing friable asbestos to be removed before any thousands of law-suits have been brought against the manufacturers, including one action on behalf of The Mercer University case, however, is one of only four to come to court.

## Survival is the first priority

by Nick Chistor

This year the National University of El Salvador (motto: "Towards freedom through culture") celebrates its 145th anniversary. The current joke among the 30,000 students enrolling in March for the start of the academic year is that it takes about half this length of time to finish a degree.

Over the past decade, the university premises have been more often closed than open. It was only two years ago that the central San Salvador campus became functional again, after almost four years' military occupation. On June 26, 1980, over 800 troops, backed by tanks and helicopters, moved in. Sixty students and lecturers were killed or "disappeared". The university rector was murdered a few months later.

The occupation was justified on the grounds that the university was harboured left-wing guerrillas who carried out raids in the capital. "The damage the soldiers did to buildings, equipment and materials was about \$30 million," notes Armando Herrera, the deputy rector. "But we were never paid any compensation - though we are government financed, and it was government troops who were responsible for all the destruction."

Wherever possible, classes continued outside the campus during the military takeover, but by 1982 student numbers had fallen to 3,000. Nearly two thirds of the staff also left. Training new lecturers - who can hope to earn an average \$250 a month - is one of this year's priorities in the university.

Herrera explained the other main objectives. The first of these is simply to survive. "It is only by continuing to operate that we can recover credibility, and have students and the other important sectors of national life take us seriously," he stresses. To do this, he and the other members of the university board are insisting the university's autonomy be fully respected.

Faced with new proposals from Napoleon Duarte's Christian Democratic government which aim specifically at curbing the independence of the national university, they are hoping that this time the response will not be a military one. Herrera also sees 1986 as the time for a long-overdue review of the academic and administrative structures within the university. Many of the syllabuses, for example, have not been revised since the 1960s, and are woefully out of date.

The university's other main battle is for adequate funding. Out of an annual budget of some \$13 million, half is barely sufficient to pay the salaries, let alone provide finance for the university to rebuild after the traumas of 1980-84. Little or no private investment is forthcoming, so

## Letter from San Salvador



Student buses wrecked by the military and (right) the rector's portrait slashed by bayonets

the university has to look elsewhere for help.

The most encouraging remarks have come from European universities. This year, a grant of \$3.5 million for capital equipment and building the facilities of agronomy and engineering is being put forward by the European Commission in the Salvador from Holland, West Germany and Italy to study how money could best be employed. The European Commission has also agreed to co-operate with the university in the future, and that the university can return to playing an active role in the country's development.

This violence has also hit the other main university in El Salvador, the Simeon Canas University of Central America. The house of the Jesuit priests who are its most prominent teachers has been bombed on no less than 14 times. "Fortunately, only half the bombs exploded," says rector Fr Martin-Baró. "But we were never paid any compensation - though we are government financed, and it was government troops who were responsible for all the destruction."

Founded 20 years ago as a state-run university "of Christian inspiration", by the 1970s it had become embroiled in the violence which wracked El Salvador. Fr Martin-Baró insists that this was because the university has always maintained an independent viewpoint. "We publish serious analyses of the situation in El Salvador," he says. "We won't be manipulated," he adds. He recalled as an example the university's findings of widespread fraud in the 1982 elections, which the embassy were trying to promote as being honest and fair.

Martin-Baró does not recognize that the situation has eased since Duarte's take-over as president, but it is extremely critical of the government's proposals for higher education. Both he and his counterparts at the national university see them as a sell-out to the private institutions which have mushroomed since 1980.

There are now 28 of these academies, many of which offer themselves "universities" and offer a degree, accepted by the Ministry of Education, when they provide only one specialty. Martin-Baró complained bitterly that at the same time as half of his well-qualified teaching staff of 200 had been forced out of or out of education, and while primary schools have been closed, the lack of staff, this staggering number of new establishments should have been authorized. He quoted the example of a "dean" at one of these places who was still struggling to finish his degree in the same subject at Simeon Canas.

## Punch-drunk but back fighting

It is just over a year since a steering committee chaired by Sir Alex Jarratt launched a debate among universities which shows no signs of fading quietly into the background. Efficiency - long identified as one of the Prime Minister's favourite hobbyhorses - has been forced to the top of most agendas throughout the country during a period of unprecedented turbulence, striking alternate notes of disavowance and paranoia along the

way. One year on, and Sir Alex looks sympathetically at the reactions of the academic community when his committee's report was released. "It was entirely understandable - they were having to cope with the University Grants Committee letter, the Green Paper, they must have felt pretty punch-drunk." He has made it his job to try to sound a note of reassurance. "There has been this very real sense of being under fire, of despair, from many of the people I have met. But at the same time, no one has tackled me head on and said I was talking rubbish." He understands the tentativeness of academics who might ask themselves if they were being asked to "manage themselves out of existence".

Since that frenetic time, however, he notes that the more extreme reactions have softened somewhat. While last summer, everyone seemed to be making fun of the Jarratt report, emphasizing the impossibilities of implementing it or just plain ignoring it, recent months have seen a more co-operative and constructive attitude emerging. The report's findings formed a key theme at the recent Conference of University Administrators, for example, while academics have realized that they cannot afford the slightest hint of complacency. At the CUA, the registrar of Sussex University, Dr Geoffrey Lockwood (who sat on the committee) confirmed to delegates what they wanted to hear - the Jarratt report defended universities, and was nothing to be frightened of.

One aspect of the report which has been seized by those who have felt the most threatened is the section containing proposals for the Government and the University Grants Committee. The point is not lost on Sir Alex who, while welcoming the Croucher committee on the UGC as an "essential part of the jig-saw", is not as happy with the Government's reaction.

"Government has failed to give the university sector any sense of confidence in its role in the country's future. It has done damn all about the report. The group's brief identified three main topics: ● Internal organization, management information systems and the use of performance indicators; ● Instruments and articles of government and their effect on efficiency; ● Relationships between colleges and local authorities.

The topics chosen underline the differences between the NAB's "Good Management Practice" inquiry and the work of the Jarratt committee, as well as the extra sensitivity of the group's task. All three topics involve the role of the local authorities, whose representatives will sit in judgement on the report at the NAB committee before anything goes to Sir Keith. One further complication is the involvement of the voluntary colleges.

The group's membership reflects the structure of the NAB itself, with three members from polytechnics and colleges, two from universities, two from the local authority sector, and one from industry and commerce and one trade unionist.

So far, the group's work has proceeded quietly, overshadowed by the main NAB planning exercise for 1987/88. But the coming weeks will see greatly increased activity, beginning with seven meetings in the next month to carry out more specific work. The NAB group, which is chaired by Mr Christopher Ball, chairman of the NAB board, expects to report by the end of the year, too late to meet Sir Keith's initial stipulation that the exercise should inform decisions in the national plan for 1987/88.

Pressure on universities and polytechnics to make themselves more accountable and subject their managerial practices to public scrutiny has never been greater. Last year's Jarratt report on university efficiency urged reforms in governance which could lead to greater lay influence in academic affairs and the establishment of publicly recognized performance indicators, while the public watchdogs - including powerful Commons committees - are taking a closer look at the affairs of higher education. In the first of a two-part series, Peter Aspdon talks to Sir Alex Jarratt, chairman of Smiths Industries, who led the efficiency inquiry, and Mr Ian Beesley, head of the Prime Minister's efficiency unit, as universities prepare to meet the autumn deadline for telling the University Grants Committee what they are planning to do about it.

Planning horizons are no better, and all the uncertainties are still there. One of his most revealing lessons from industry, when trying to implement complex pay restructuring, is that "you've got to put the money on the table". And that has not been forthcoming.

But that, of course, does not mean that universities can bury their heads in the sand and pretend the whole thing has not happened. "The report is not a blueprint, but that doesn't mean that it can be ignored. The recommendations are things which have to happen, they are inevitable. We are trying to help people, not hinder them."

Ultimately, we were trying to stress that universities might have to tailor their affairs to meet changed funding circumstances. They have actually shown that they can do it, but if you ask if there is a better way of doing something, the answer is usually yes.

When universities have turned the focus on themselves in the wake of the two areas of concern: the wish to turn vice chancellors into chief executives, which they feel might subvert the

importance of academic standards, and the need to attract more lay people into increasingly influential committees. It is all very well, they argue, stating the importance of bringing in highly-motivated, dynamic and intelligent non-academics to clear out the cobwebs, but where do you find them?

At a CUA session devoted to that very issue, no one resisted the idea of more effective lay participation in university affairs, but all emphasized the difficulties of attracting young, busy, middle-ranking executives who might be able to bring a fresh sharpness to the decision-making process.

Sir Alex feels that by implementing some of the report's recommendations, that problem might begin to disappear: one of the most discouraging and unattractive features of academic governance is the length, frequency and tortuous nature of the committee process. With brisk, well-regulated agendas and a more streamlined decision-making structure, lay participants could both spare the time to become involved and would find proceedings considerably more challenging than at present.

The problem of the shy, retiring vice chancellor, brilliant at his subject but poor at handling the increasing responsibilities of university governance, is a trickier issue. It is not difficult to ask for a candidate who is first and foremost academically distinguished, but who also happens to be skilled at the functions of a typical chief executive.

Sir Alex is the first to acknowledge that there are already vice chancellors who fulfil both roles admirably; but there are also those who not only want to keep out of decision-making duties,

but who will not allow their roles to change. More than one vice chancellor has publicly dismissed the comparison with a chief executive, stressing the consensual nature of universities. But the industrial analogy, to Sir Alex, is quite straightforward. "It applies in so far as the chief executive's role in a company is to ensure that all its resources are properly disposed to achieve that company's objectives. It's the same with a vice chancellor - he has to ensure, ultimately, that his university is a viable institution."

That is, very firmly, a theme for the



future. He admits that you cannot "Jarrattize" some existing vice chancellors overnight, any more than you can improve their public relations skills, but he hopes that experiences gained running a faculty or becoming a pro-vice chancellor will help when the fateful time comes to step into the top job. "If you are highly intelligent, literate, numerate and have problem-solving capabilities, then decision-making techniques can be acquired."

Despite the recent mood of complacency among universities, there are still outspoken critics of the Jarratt report. They can be typified by an attack on the paper recently launched by the Association of University Teachers, which branded the report "crudely ideological" and characterized it as a "magic formula for an effective contraction of the system."

This, more than most, is a charge Sir Alex strongly denies. Although he has no doubts that savings can be made if the report is implemented, he was personally insistent that the final version made no reference to financial figures.

"We actually re-set the terms of reference of the report. It would have been impossible to extrapolate general financial points after looking at just six universities, so we did not attempt to do so." If the Government saw Jarratt as a means of getting away with further cuts, it must be disappointed.

Savings, to Sir Alex and his committee members, are to be made to enable universities to plan priorities more effectively, to reshuffle their own packs. "Savings are not to be used as a means of reducing the public commitment to the country's education needs." And if the DES used his report as a rationale for further spending cuts? A determined smile: "I would very much like to see the department's reasoning on that."

THESE, May 16: The public watchdogs how Commons committees monitor higher education, its spending and Government policy implications.



Sir Alex Jarratt: "A strong sense of being under fire"

## Behind the slogans at No 10

Snappy slogans about the need to achieve greater value for money are delivered by Mr Ian Beesley with the zeal of a young advertising copy-writer anxious to impress a sceptical client. "It is not enough to care deeply unless you are prepared to find ways of doing things better," is one of the latest; simple, direct and, above all, widely applicable.

He is keen to stress that universities should not feel "punched on" in any sense as a result of the Jarratt efficiency inquiry; many organizations have been scrutinized by its efficiency unit in recent years. Last year's subjects included the use of paper in the Manpower Services Commission, the slum clearance grant and the arrangements for court escorts for prisoners.

The origins of the unit lay in the Prime Minister's decision, just after her 1979 election victory, to create a new post for the sole purpose of improving efficiency in Government. Amid considerable publicity, Lord Rayner arrived from Marks and Spencer to lead the charge and gradually, the ideology of scrutiny began to establish its terms of reference. In

last year's efficiency unit report on implementing scrutinies, the key elements of the technique were identified: radical questioning, direct observation, proposals based firmly on factual evidence and a sense of urgency.

The university sector, says Mr Beesley, responded well to the process. He singles out the examining officers of the six universities on which Jarratt was based as doing an excellent job: "They performed fully up to the standards one would expect from the Civil Service," he says.

But ultimately, it is the view from outside, the "breath of fresh air" which underpins the execution - and consequences - of a successful scrutiny. Although any lasting reform should be from within, the *raison d'être* of the unit is its ability to obtain hard evidence, at first hand, of an institution's efficiency.

Although the arrangement for the universities study was different, using a combination of management consultants and the institution's own study officer, the outsider's view remains all-important. It is the same motivation which led to one of Jarratt's key themes, the importance of lay participation in university governance.

"Ideally, one wants someone who is committed to the well-being of the institution without being committed to its conventional beliefs," says Mr Beesley. "Someone who can provide a sense of perspective and help to clarify where a university fits in to the national - and local - scene."

Not many universities would today disagree with those sentiments. But it is the undisputed political connection between the present Government's wish to cut public spending and the inescapable rise of the efficiency ethos which has given universities justified anxiety about Jarratt.

The politics of efficiency is not something on which Mr Beesley, a civil servant, is free to comment. But he must realize that there are still many bitter critics of Lord Rayner's "achievements" in a civil service which has become badly demoralized, and setting its face to establish its credentials as a self-evident, non-political, desirable end-in-itself, no matter how snappy the slogans.

السلامة



If the name David Puttnam is synonymous with the British film industry, then the British film industry isn't going to be around for a while. Mr Puttnam the producer - *Dr Puttnam* to give him his full academic title - is going to Harvard University to think for a year.

The shine on Puttnam's mythical reputation as single-handed saviour of Britain's film fortunes - a rule he would never claim for himself - has been tarnished for some time. The financial troubles of his Goldcrest production company, plus the multi-million pound flop of *Revolution* (the American one) have overshadowed the successes of *Chariots of Fire* and *The Killing Fields*.

But outside the film industry his activities have increased. He is a Tate Gallery trustee; he recently became chairman of the Council for the Protection of Rural England; he is an energetic and evangelical Social Democrat. It was the SDP president Mrs Shirley Williams who suggested to him the latest and most radical break from film-making: a nine-month Kennedy Fellowship at Harvard, allocated annually to the international great and good (Mrs Williams herself had one) which Puttnam chose to spend in the university's philosophy school.

He goes there sometime between September and January, depending on film schedules, for the 1986/87 academic year. He will give eight lectures as a university visiting artist and spend one afternoon a week with the other half dozen Kennedy Fellows. The rest of the time he plans to spend thinking about the not immediately apparent relationship between philosophy and the film business. Films and TV are the strongest political and social influences of today, he argues. Dallas, not Descartes, sets the moral agenda.

But without contact between thinkers and dream merchants, that agenda is set by accident, unlike - and here Puttnam's thesis becomes a much nostalgic and philosophical - the films with clear notions of right and wrong which he watched as a boy in the 1950s. The ethics of *Rambo* and *Dynasty* are the products of a moral and philosophical vacuum, he says: a vacuum which exists because of the million-mile gulf separating film practice

There's no more vivid illustration of the cultural gulf between Britain and the United States than the power of the American TV evangelist. Nowhere is this influence more tangible than Tulsa, Oklahoma where the aptly-named Oral Roberts, longest standing of the TV preachers, has built his own university.

To his followers the work of God, to sceptics a monument to a monumental ego, the campus of Oral Roberts University is certainly testimony to the fund-raising ability of his organization. Known as "God's Disneyland", its spectacular buildings, grouped around a massive angular prayer-tower suggestive of an ultra-modern communications mast, cost \$250 million to build between 1965 and 1967. They share their edge of city with the 60-storey City of Faith medical center, another Roberts project.

University officers point proudly to the fact that every cent was contributed by Roberts' "prayer partners", the followers he has accumulated in his ministry since 1947, much of it in \$5 and \$10 offerings. Roberts continues to broadcast his brand of conservative and eschewing the overt politicization of extreme reactionary rival Jerry Falwell - from a studio on the campus. Starting with 300 students in 1965, the university now enrolls 4,500 from nations. As 1977 graduate Debbie Titus, one of many ORU students who stay on to work for the college, now a manager in the creative development department, says: "It's more than just another little bible college". There is a department of theology, but it is no way outranks those of law, business or medicine.

Although its range of courses and academic entry requirements reflect those of other Oklahoma universities, there is no way it could be mistaken for a secular institution. Titus says: "The emphasis on a Christian lifestyle pervades everything in this university". Secular institutions insist on basic academic competence, minimum standards of behaviour, and operate pastoral care partly as a safety net, but regard other aspects of students' lives as their own concern and responsibility.

ORU by contrast intervenes in every area of student life. They receive what,

## Freeze frame for the film maker

Karen Gold on David Puttnam's pause for thought

tioners and philosophers.

His stay at Harvard is an attempt not so much to bridge the gulf - "I don't think I have any influence" - as to explore whether it can be bridged. "If I'm right, that film makers set the agenda, then maybe we aren't clever enough to deal with that. It does seem to me that as someone who does instigate and is at the sharp end of production, for me to expose myself to different forms of philosophy might well influence my work and then might be the beginning of something more... it's literally learning to ask myself the right questions."

Harvard will be the first time David Puttnam has been on the receiving end of formal education since he left Michenden Grammar school with much relief and a handful of O levels. But almost 10 years ago he began lecturing in universities and colleges in Britain and the United States and - adding a governorship of the British Film School - has kept up the education habit.

He began accepting invitations to lecture on campuses for his own sake, he says: to force himself to define what he thought about films and to increase

## Building on the power of prayer

Huw Richards visits 'God's Disneyland' - the Oral Roberts university in Tulsa, Oklahoma

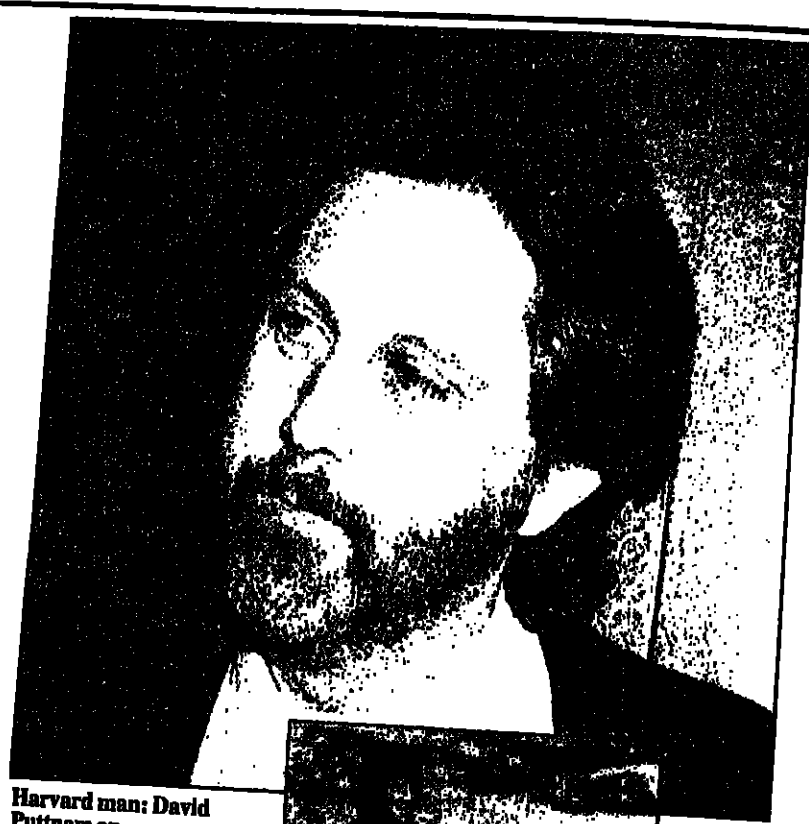
according to one's point of view, is either exceptionally committed and caring pastoral attention or an extraordinary degree of regulation and interference in personal life. The first thing new students will find in their handbook is Roberts' own foreword which tells them: "A dynamic climate of positive faith in God exists here. Things must be made to happen. I want to see you develop as a student, to be intellectually alert, physically strengthened, spiritually alive and socially balanced. You can do this with God's help and through your own dedication and work."

"I personally ask you to read this handbook carefully. Be very sure with in yourself that this is the lifestyle you wish to pursue during your stay at ORU. We seek students who will embrace wholeheartedly by the ORU way of life."

Key to this way of life is the ORU Credo of Honour Pledge, which all students must sign on matriculation. In this students accept, among other things, that attendance at ORU is a privilege, not a right.

ORU students forewear a substantial range of the things their contemporaries may be experimenting with at other universities - alcohol, tobacco, and "illicit sexual acts" are specifically banned. Twice weekly chapel attendance is compulsory, as is a detailed dress code.

In the university cafeteria, classes, chapel and library, women students are required to wear skirts which are "modest and in good taste", while men must dress shirts with a collar and tie. Men's hair should "allow for half the ear to be showing on the sides, not there are similarly specific limitations on hairstyles and sideburns. Batsuits



Harvard man: David Puttnam on "sabbatical" from Goldcrest. Inset: *Rambo* - "product of a moral and philosophical vacuum"

his confidence in public speaking. His most regular commitment - apart from the BBS - is to Bristol University, which in 1983 gave him an honorary doctorate, an award he valued highly enough to return from South East Asia to receive.

At the same time the university asked him to lecture regularly to its postgraduate students in radio, film and TV. Whereas his touring lectures concentrate on the role of the film maker, at Bristol he offers students acquainted with low budget and documentary film-making an insight into the multi-million pound end of the

business. He packs an informal lecture with details from a different world - running times that must be under two hours eight minutes to squeeze in five daily showings in America; changing audience perceptions of a character by extra shots of an actor smiling. But throughout he also deals with issues of art, morality and entertainment that cut across the boundaries of small scale and mass audience films.

Recently he dealt with pre-viewing: the new near-mandatory exercise of questioning invited audiences on their reaction to a film and altering it



The three towers of the City of Faith medical center

are completely out. Bathing suits are banned.

Students live in house groups of 30 with a resident adviser to each group. Curfews are strictly enforced, with women expected to be in earlier than men, and a formidable bureaucracy of checks each room in a women's residence 15 minutes after curfew to ensure students are in.

Room decoration which could be considered pornographic is banned, a ubiquitous ORU phrase, "in taste" - although as Titus points out there are now a few Christian heavy rock bands in the US.

ORU's very own addition to the recreation of prewar Oxford is their compulsory "sociology" programme,

which counts as part of the degree requirements. Creative development graduate from the early 1970s, says: "Health is an essential dimension of life here. I wouldn't disagree with people who say we're practising glib Victorianism. The aim is that students should test themselves and reach their full potential."

Titus adds: "We have been called 'lean and mean'. But it isn't the case, as some people allege, that you can't be a student here if you're overweight or disabled. We simply look for people to improve their physical performance over their time here. It's not at all intensive and competitive. I used to enjoy going jogging with my friends. And the entire area is accessible to

disabled people - for instance the lifts have Braille instructions."

The clean-cut, clean-living image means applicants are a self-selecting group: "We make no secret of what life here is like. If people want to study they won't come here. Some people may have a little difficulty imagining what life will be like before they get here - and remember the honor code must be obeyed off campus and out of term as well - but most problems can normally be sorted out. We find an increasing number of our students come from Christian high schools where they're already attuned to this sort of life," says Dargatz.

Registrar Sam Thorne reckons the drop-out rate is lower than most schools because students have used a positive decision to attend a college like ORU - and with many coming from outside Oklahoma going home isn't the easy option it might be for someone at their local university.

Titus says: "Students here know what they want and where they're going. They do protest at things, but not as aggressively as elsewhere. I came here in 1973 because I wanted a Christian education and to be somewhere that wasn't disrupted by public rowers."

Staff must also adhere to the honor code, and are equally self-selecting. Dargatz says: "We don't require that they be Christians. It's just that anyone who isn't would feel a bit uncomfortable here."

They are expected to carry a heavy teaching load of 12 credit hours a week and take an active part in pastoral and university society activities. The university society activities, the emphasis is strongly on teaching rather than research, and is aided by an extensive use of high quality cassette circuits and video facilities.

They can point to a solid academic record. Courses rapidly achieved recognition and accreditation in the 1960s and 1970s. Dargatz points proudly to the success achieved by many ORU graduates: "Our graduates are the best of people employers like. They're disciplined and motivated, they respect authority but they can also think for themselves. They have a very good rate of acceptance by law and business schools. Teachers have to pass a competency test in Oklahoma and in the last few years graduates from our school of education have had a better than average pass rate."

Her passion for reading was nurtured in a bookish Yorkshire upbringing. "The house was full of books," she recalls. "I was given Browning to read when I was really very little."

"All through my childhood, I was somehow thought to be abnormal, partly because I was very ill with asthma a lot of the time and partly because I was vulnerably clever. I was very, very little and a lot younger than the other girls in the class and I could only do one thing - which was to come top in all the exams."

Her Cambridge-educated parents - mother was briefly a teacher and father became a judge - expected their children "to do well". Antonia, the eldest of four, went to a Quaker school in York before going up to Newnham. Cambridge seems to run in the family. Her two sisters and brother followed

Simon Midgley meets A. S. Byatt, don and novelist who's unafraid of being labelled an intellectual

## Off to a head start for the writing life

PROFILE

S. Byatt phones. She is late for a *Calendoscope* programme. I return her call a few days later. She is off to about an important subject in Covent Garden. We eventually meet. She is reading Trollope. Antonia Byatt is not ashamed of being an intellectual.

A relaxed and engaging physical presence, Ms Byatt (née Drabble - Margaret, the novelist, is a sister) straddles a low stool in her book-crammed Putney study. William, a red and white border collie, who takes his name from the Lakeland poet, lies nearby, a vigilant chaperone.

Novelist, critic and sometime university teacher (she uses the Oxbridge term don), Ms Byatt is the author of four novels and several critical works including a study of Iris Murdoch and a book on Wordsworth and Coleridge. At 49, she is a mother of four, 16 years into her second marriage, and on the brink of completing her first collection of short stories and the preparatory work for a historical novel. Out of interest and to augment her income, she also reviews for *The TLS* and *The Times* and occasionally sallies out to discuss philosophy, writing fiction and critical theory with friends and contemporaries such as Iris Murdoch, Malcolm Bradbury and David Lodge.

Journeys in conversation and a careful listener, Ms Byatt is interested in language and the problem of trying to describe the world truthfully. A life-long voracious reader, she is intrigued by culture and ideas in a broad sense but retains a fierce first love for literature and especially English, and more recently, European literature.

"I have a sort of passion for the way the English language works," she says. "Which can operate differently in a classroom, with a pen in my hand, or trying to explain how somebody's novel works in a review."

Although none of her fictional works are "campus novels" as such, they are all autobiographical to some degree and draw on Ms Byatt's experience of academic life as a student and teacher at Newnham, Somerville and University College London.

The first, *Shadow of a Sun*, features a critic loosely modelled on F. R. Leavis whom she met at Cambridge. The second, *The Game*, describes the rivalry between two sisters, Julia, a novelist, and Cassandra, an Oxford don. The most recent novels, *The Virgin in the Garden* and *Still Life* chronicle the lives of the children of a radical Yorkshire schoolmaster in the 1920s. Two of the main protagonists are again a pair of academically gifted sisters.

She writes under her first husband's name. Her present name is Duffy but if she used that there would be a risk of being confused with Maureen Duffy, another novelist. For "obvious reasons", she says, she cannot use her maiden name Drabble. "I have always had a desire to distance myself from a sort of Drabbleanness."

She is resolutely uncommunicative about her relationship with her sister. "I have always disliked anything that got into print about the fact that we are sisters. I don't like comparisons. I don't think her writing and mine have very much in common. We get on a mixture of well and badly as sisters do. In many ways she understands faster than anybody things that I say but there has also always been an element of competition. I know about siblings - something I feel I understand."

Her passion for reading was nurtured in a bookish Yorkshire upbringing. "The house was full of books," she recalls. "I was given Browning to read when I was really very little."

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her there and her eldest daughter has subsequently kept up the tradition. University, especially in the early years, was "a frantic time. I made a lot of friends, did quite a lot of acting and met men," she says. "I didn't go to lectures ever. I just sat in the library."

Cambridge English was still very much under the shadow of Leavis. "He was a great man and a genius and he caused people to see what a complicated thing literature was," she says. "He did in a sense partly teach me to write by just looking at the way every word lay against the next word and made it seem that it was possible to look that closely."

He was also "an incredibly inhibiting influence. I partly write so slowly, with such complexity and with such perfectionism out of fear of Leavis."

"When I was at Cambridge, I knew a man who had written a novel. It was accepted but he then got into such a panic about what Leavis would think if he ever saw it that he went and got the manuscript back."

It was while an undergraduate that she wrote most of the initial draft of *Showdown of a Sun*. This describes a very idealized and slightly mocked sun god of a novelist and an obsessive Cambridge critic. It is based on Leavis's relation with D. H. Lawrence. Although she had the confidence to start it at Cambridge, it was some years before she felt ready to try to get it published.

In the third year, she became obsessed with "Phantomism and simply sat in the library 'reading things that were of no earthly use for my degree'". Although she thought that literature was very important, she believed that Leavis's idea that the English school should be the centre of the university was a nonsense.

"I ruined my finals by writing a three-hour essay against the English school," she recalls. "The title of the essay was 'The novel is the highest form of human expression' - yet I attained it and I wrote a rather levitating diatribe saying that was absolute nonsense. What about Plato? What about mathematics? How narrow can you be?"

After graduating in 1957, she spent a year studying Renaissance iconography and trying to learn Greek at Bryn Mawr, an old-fashioned Ivy League women's college in Pennsylvania. She was planning to do a PhD on the 17th century religious allegorist and C. S. Lewis had told her Greek and Hebrew. She went to Oxford and started a DPhil under Helen Gardner before marrying Ian Byatt, her first husband, now deputy chief economic adviser in the Treasury but then an economics lecturer at Durham University. It was at Durham after the birth of her first two children that she finished the novel and got it accepted by Chatto.

In the early 1960s, Ian Byatt got a job with the Treasury and they moved to London. Now in her late twenties, Ms Byatt felt terribly old, felt finished because of having become an academic wife. I was nervously, extremely ambitious at this time."

It also brought her into close and sustained contact with books again. "I suppose throughout my life most of my experience has been reading. What I am a good and passionate reader. I can read and remember a book better than most people I know."

She stayed for 11 years but then in 1983 chose to take severance pay and devote herself to writing full-time. The *Game*, her second novel, had been published in 1967 and she had already started work on *The Virgin in the Garden*, which was intended to be the opening volume of a four-part series. "I was an obsessively enthusiastic teacher in my late twenties and early thirties because I was telling people things I had just discovered and then I reached the point when I realized I was telling people for the third time and I was as interested as I had been the



Antonia Byatt at home with William

cause they were producing huge structural arguments about everything."

In 1969, her first marriage ended in divorce and almost immediately she married again. Her second husband, another economist, works as a pensions fund manager in the City.

"People always ask why do you keep marrying economists and the answer to that I think is some sort of vague feeling about contact with the real world, which is much more of a fantasy world than my world is. It is partly about being more excited in the company of people from different disciplines. I would not have liked to marry a don or another writer."

In the early 1970s she decided to take a full-time academic job teaching English and American literature at University College London in order to pay her son Giles's school fees. Tragically, a week after she accepted the post, he was killed in a road accident.

She like the university job because "it was a good way of observing much larger groups of people than I would have done if I were still being a housewife or even a writer, which is a bit like being a housewife with a pen."

"As a schoolgirl, I had only had a very intense private life, then suddenly there was this marvellous experience of belonging to a unit, a body of people. It was very exciting to meet scientists, historians and language de-

partment people in the staff room. "One of the things that teaching is terribly good for is stopping solipsism, you do realize that everybody is different."

It also brought her into close and sustained contact with books again. "I suppose throughout my life most of my experience has been reading. What I am a good and passionate reader. I can read and remember a book better than most people I know."

She stayed for 11 years but then in 1983 chose to take severance pay and devote herself to writing full-time. The *Game*, her second novel, had been published in 1967 and she had already started work on *The Virgin in the Garden*, which was intended to be the opening volume of a four-part series. "I was an obsessively enthusiastic teacher in my late twenties and early thirties because I was telling people things I had just discovered and then I reached the point when I realized I was telling people for the third time and I was as interested as I had been the

relationships," she says. "Most of my most important experiences have not been that. They are actually seeing what Milton was saying, the way I see the world is conditioned by what he saw much of which I don't like. He has a very nasty God in there. That God is in the world I live in."

She prepares for her novels in the same way as she researches her academic books: by reading widely around the subject and collecting quotations and ideas in very long elaborate notebooks before starting to write.

Critical reaction to her work has been mixed. Iris Murdoch is a fan, Anthony Burgess, after completing his list of 99 best novels, started to read Ms Byatt and thought: "My god, this is writing!" Several critics felt *Still Life* worthy of the Booker Prize.

Others, however, have felt that her narratives have been crippled by her "intellectual encrustation". They have, in a rather English way, been much more at home with her descriptions of grief, childbirth and sexual love, than her thoughts on painting, Freud and sociology.

She is not very taken with what is happening to the novel in the moment. "I dislike anything that sets out to mock, denigrate, hurt or cut down," she says. "There is a kind of brutality going on about human acts in novels that are much admired. I don't enjoy the work of Ian McEwan or Martin Amis. They're simple. They're so sure that what they say is right. There's no searching about them. I'd rather read a good piece of philosophy."

And also I just don't believe that all these jolly little modern people have any idea that the world is as complicated as Balzac knew it was. Then they accuse him of simplifying and it makes me very angry."

"I think both his writing and his view of the world are so much more complicated than theirs. They take certain French observations about the movements of the psyche and the provisions of the nature of language and say: 'Ah now, we can never be as simple-minded as Balzac.'"

Well, of course, he knew language was provisional. He also knew that it always had been immensely emotive and had described the world. I just prefer him, he's more generous. There's a sort of failure of generosity about what's happening at the moment."







## Richard Cobb



### Amazing mystery of the social history archivist

As we made our way down the rue des Archives, my companion bent down to pick up a wetish, mud-stained piece of paper that he had spotted on the pavement opposite the Ecole Maier-nelle. He handed it to me. It was headed *Syndicat des Garçons Coiffeurs de la Ville de Paris* and was related to some plan of strike action scheduled to take place - if it had taken place - about a month previously. I returned the muddy sheet to my friend who, after reading it carefully, folded it up neatly into a tiny square and placed it within his bulging wallet where it appeared to find company with a thickish wad of similar bits of paper.

"*Excusez une contribution à l'histoire sociale*," he commented. Having often accompanied Robert Dauvergne on our way back to the Left Bank, I had grown used to his habit of spotting archival material as he lay on the ground, making even the shortest itinerary a small adventure in historical discovery.

He had told me on some previous occasion that he had had to reinforce the floor of his flat after the ceiling beneath had begun to crack under the weight of paper already accumulated and that he was in the habit of referring to, in footnotes to articles and in conversation, as *Fonds Dauvergne, Archives Privées*. Having once visited the flat, I had had to remove several layers of *Fonds Dauvergne* from a deep Louis XVI chair before being able to sit down. Robert had been collecting for years, both from the streets, from the walls, and from sales. He had told me that he had really got his collection going as a young man in his early twenties in the course of the election campaign of 1924 that had brought to power the *Cartel des Gauches*. His impartiality as a historian had come equally early, for he had addressed himself to the electoral posters of ALL down with care, and folding them into four. There had been difficult moments when the militants of one or another extreme group had come upon the bespectacled figure engaged in these archival operations and had accused him of sabotaging their efforts. Sometimes he had been accused of being a proto-communist; a crypto-fascist and no-one had readily accepted his plea that he had been acting in the interest of history and that each of these posters constituted *un document* for the future.

Nineteen twenty-four had been the point of departure. His biggest harvest had come in with the 1936 elections and that had subsequently occupied most of the bathroom of his flat. He told me proudly - and I was ready to believe him - that his 1936 collection for the Département du Seine was occupation had made things much more difficult for him. The curfew had cut down on the time available for nocturnal prospecting, and he had found the night patrols of the Wehrmacht unsympathetic and, indeed, actively anti-historical, when they had caught him in the act of gently peeling off black and red were for executions - from the *Military Governor des Grands Paris*. But the Liberation had once more offered him the full freedom of the walls of the city and each election since that of 1945 had brought in his weighty haul. The flat had no longer been able to accommodate the ever-expanding *Fonds*, some of it had had to be stacked in all the ground floor rooms of his seaside villa at Cabourg. Robert always appeared to be in a desperate hurry in an effort to keep up with his next rendezvous, which might

take him to the other end of Paris. He seemed to live in a semi-organized accelerated chaos.

He did not believe in wasting words, especially as gratuitous offerings to the French state and, as a *professeur d'histoire* at the Lycée Henri IV - he had only to go up the hill from the level of the Place Maubert - he had long since established the habit, retailed from one generation of pupils to the next, of cutting off in the sentence at the end of the period: *en 1775, le Roi Louis XV est mort d'une*... completing the sentence a week later the next time he met that particular class, a considerable feat of memory that seems to have endeared him to a wide range of his pupils over the 30 years or so that he had taught at the conveniently placed establishment.

My usual sighting of Dauvergne was of a figure hurrying down the steps of the nearest metro station. But on one occasion he proposed meeting me at midday outside H IV. It took us three hours to come down from the top of the Montagne Sainte-Geneviève to the level of the Place Maubert, stopping en route in 17 small bars: *"Boulogne, nide, au petit blanc sec"* which wasn't so much a question as a form of greeting. It was always a *vin de* *Sancerre*.

His general appearance could only be described as *fofuche*, he had strange, fishlike grey eyes of an alarming, unblinking fixity that looked as if they had been in the habit of seeing and that were not meant to be seen and that were best not referred to. The message suggested by the alarming eyes was further emphasized by the pair of eyebrows that looked as if they had been painted on, giving him the look of a ravaged and ageing pterodactyl, by a very bald, shiny, dome-shaped pate that was when he could be induced actually to look down for a moment in a café, and down at his next rendezvous and the one after that. The general air of shabby vice was completed, when stained black hair there were stains in most other areas of his clothing, but I often wondered how he had managed to get them on his hat - an off-white shirt revealing a yellowish sweat, and a frayed velvet collar, covered in carried half-a-dozen ribbons in its buttonhole - which he wore through-out the year. Of course, just as the whole thing may have been put on, for of mystery, and a very well-known way in which Robert dispersed his undoubted talents as a researcher on what he regarded as trivia, always referred to him, in the late-17th-century manner as: *Dauvergne, ou le mystérieux*.

It is possible that I may have imagined all this, there may have been no mystery at all, just a rather sad shabby-looking man, like someone who has cleaned up and given a decent meal. There was nothing mysterious about his drinking habits, nor about his quite remarkable ability as a teacher which at least memorably bizarre. The eyes much of their time squinting through keyholes. But it could have been simpler than that: that Robert was just a man of quite insatiable curiosity. The alarming eyes may have been completely innocent.

## Triumph over the first-year blues

### CONFERENCE BRIEFING

by Chris de Winter  
Hebron  
and John Gardner

July 1986 will see a unique gathering of British, European, Canadian, and American educators in Newcastle upon Tyne. These educators will be coming together for the first time to launch an experiment in international conferencing - the International Conference on the First-Year Experience.

Since 1972, the University of South Carolina has operated a highly successful seminar for first-year students: University 101. The Student in the University. The seminar was begun as an educational experiment. In an era of student demonstrations, it made sense to attempt to humanize the university environment for entering students. The seminar is designed to accomplish a number of objectives: providing an extensive orientation to the general and to the particular institution and its resources; helping first-year students adjust to the collegiate learning process; helping the first-year students develop more positive attitudes toward the institution; and thus improving the retention rate of these students.

The freshman seminar concept itself was not unique to the University of South Carolina, but what is unique is its accompanying staff development workshop. These workshops provide professional and personal development as they become more knowledgeable about their institution and its services and resources and as they are exposed to effective ways of communicating subject matter to collegiate undergraduates. The 40-hour workshop experience is special preparation and is prerequisite to teaching the course.

American higher education grew increasingly short of money during the 1970s, the program received widespread recognition.

Increasingly, University 101 personnel were asked to help other institutions design and implement University 101 type programs, to make presentations at professional organizations, and to staff training at institutions throughout the USA. Because of this enormous interest, the University of South Carolina decided in 1981 to organize a first international conference for those who either administer freshman seminar programs or those who wish to learn how to design and implement such programs.

### Orientation

Therefore, in February 1982, USC hosted the National Conference on the First-Year Seminar/Freshman Orientation Course Concept. Without having any idea what the potential market for such a conference activity was, the university was astonished and pleased that 75 participants came to a conference not sponsored in conjunction with any formalized academic professional organization or association. The focus of this conference was entirely on the freshman seminar and freshman orientation courses. Participants in that first conference then suggested some changes - that a following year, but that the focus be broadened to include other types of programs for first year students designed to enhance retention and improve the freshman year.

As a result of these proposals, the university hosted its first National Conference on the Freshman Year Experience in 1983, to which 350 people came from the United States and Canada. This was followed by a Second National Conference on the Freshman Year Experience in February 1984 at which 500 educators were in attendance. A Third National Conference was attended by 700 educators from the United States, Canada, and Great Britain in 1985. Most recently, 1,000 people journeyed to Columbia, South Carolina, for this now well-established conference series. The total first year experience and seeks to: present information on innovative programs and freshman year concepts that are helping students make suc-

cessful adjustments to higher education:

- bring together academics, administrators and student counsellors to model a partnership for the improvement of the first year;
- bring together educators who believe in the development of new programs and modification of existing programs and curricula for freshmen in order to help their institutions remain competitive and achieve excellence;
- focus on total student development tasks of the first year: academic, vocational, emotional, physical, spiritual, and social - and how these can be enhanced by mutually complementary programs.

As the conferences grew and developed, the organizers of the USC conference series decided to try to involve individuals from a number of countries outside USA, first Canada and then Britain. In the past decade, the University of South Carolina under the leadership of USC president James B. Houldern, has become increasingly involved in international activities.

Once the decision had been taken to internationalize the conference, the first thing we did was to get together a small group of British academics to speak at the Columbia meeting in February 1985. The effect was electric: suddenly, a vision of an entire new world of educational culture, but one nevertheless with the same problems, opened the amazing thing was, that although school and higher education were in many ways so different from each other, the problems - of student underachievement, of adjusting to managing one's own learning, and of dropout from college - proved to be very similar.

Naturally, there were differences too. One cannot compare a system of elitist higher education such as Britain's, with only 12 per cent age participation rate, with a mass higher education system with almost 52 per cent age participation rate and not expect to find differences. Thus, Britain the American "homehead English" taints nothing like 54 per cent freshman year dropout of some American institutions. But within the framework of each system, the effect was the same: both countries' freshmen included a substantial proportion at the level of their tutors required of them, and both countries became alarmed when attrition percentages exceeded the age participation rate for their respective intakes.

But would this interest transfer back across the Atlantic to Britain? The nations had been established in both would the British institutions perceive approach the Society of Research for Higher Education: here the proposal fell on fruitful ground. Following its professional education, and in the run-up to its forthcoming (December 1986) conference on academic standards, the society recognized the topic as one that was both timely and important and agreed to sponsor the conference.

### Keynote panel

The next step, in March 1985, was to test the water as far as individual institutions were concerned. We called June 27, and invited 64 leading academics and industrialists to discuss both the problem and the plan for a conference. In the event, 24 finally made it on the day, and after some queries over our original use of the

terms "freshman year," which they thought purely American, the project was carried by acclamation.

What had emerged now, therefore, was a project for a five-day international conference, Monday to Friday, to take place at Newcastle Polytechnic in early July (July 7-11) 1986. Six areas had been identified for conference presentations:

- help for incoming students;
- programmes for specific populations;
- understanding the new student;
- research;
- first-year curricula;
- staff development and the first year.

Our experience with other international meetings however has made us wary of simply accepting any presentation offered to us: all presentations are to be reviewed by two independent assessors, one of whom must have experience of the original American conference. We have also invited keynote panel contributions from a range of leading bodies, including the DES and CNA. But apart from the changes of detail the six topic areas have remained the structure of the meeting that is now well under preparation.

Socially, our preparations have been equally extensive. Remembering that British academics need to save money, while Americans look to their comfort, we have arranged for accommodation to be available both on campus and in the leading hotel (luckily, Newcastle campus has residences in situ, and is linked to a suitable hotel by a pedestrian bridge).

What has the response been to this? As we write, many proposals are not yet in, but we know of interest from as far away as Germany, Poland, Nigeria and Australia. Nearer to hand, Trinity College, Dublin, rubs shoulders with Trent Polytechnic, and Strathclyde with Southampton. Proposals accepted, or being evaluated, include sessions on training peer assessors, on applicants' responses to videotapes of college life, on ways of predicting academic performance, on the design of the first year of the new US plans courses, on the role of the chaplaincy and of the students' union movement, and on ways of doing such different things as changing learning climates in first-year courses and computerizing the personal tutor service.

The authors, co-organizers of the 1985 International Conference on the First-Year Experience, are in the faculty of humanities, Newcastle upon Tyne Polytechnic, and the University of South Carolina respectively. Inquiries to Dr de Winter Hebron, Lynton Building, Sandford Road, Newcastle NE1 8ST.

It is hoped in future to publish conference briefings and reports as a regular feature in THIS. Suggestions - and completed articles - are welcomed well in advance.

by Alan Little

**Caught Between:** a review of research into the education of pupils of West Indian origin  
by Monica J. Taylor  
NER-Nelson, £12.45  
ISBN 0 85633 231 3

**The Best of Both Worlds . . . ? A review of research into the education of pupils of South Asian origin**  
by Monica J. Taylor with Seamus Heaney  
NER-Nelson, £24.95  
ISBN 0 7005 0615 2

Nine years ago the Select Committee on Race Relations and Immigration recommended that "as a matter of urgency the Government [should] initiate a high level and independent inquiry into the causes of the underachievement of children of West Indian origin in maintained schools and the remedial action required". This recommendation followed a series of inquiries into racial inequalities which gave political prominence both to growing fear among the West Indian community about the educational performance of their children in schools. Allied to this was a view that at least some of the responsibility for the poor performance of black pupils lay within the school itself. Although by no means everybody agreed with Bernard Coard's title "How the West Indian child is made educationally subnormal in the British school system", there was sufficient point in it to make people anxious.

The Select Committee had gone further than being anxious; since its first report on coloured school leavers, it had been flagging the need for educational performance, and especially the large body of evidence indicating that children of West Indian origin were under-achieving. In its 1977 report it said "Young blacks present a critical challenge to all those working for the improvement of race relations. The alienation of some of the young blacks cannot be ignored and action must be taken before relations deteriorate further and create irreconcilable divisions". Successive governments, although active in introducing immigration control and anti-discrimination legislation, had been slow to respond to positive policy recommendations in race relations. However, the idea of an independent inquiry was quickly accepted and it was set up in 1979. But the Government introduced two shifts of emphasis in its terms of reference: the Select Committee asked for an inquiry into the underachievement among pupils of West Indian origin whereas the Government asked for one into the underachievement among pupils of all ethnic minority groups, with priority given to children of West Indian origin. The Select Committee asked for an inquiry into the causes of underachievement; Government asked for a "review of the educational needs and attainments of children . . . also to consider how achievement might be monitored". Were these changes significant? I

think they were, because from a specific focus on "cause" and "West Indian origin" a broader remit was given to consider all groups and undertake another review of performance rather than the policy discussion on causes. In fairness, it must be said that the wider terms of reference placed the discussion of black performance in a wider educational and social context, and to many people interested in race relations in general and its implications for education in particular, this is a more appropriate context for such discussions. I must say I have doubts about this, and this has influenced my reading of these two books and both the interim (Rampton) and final (Swann) reports of the inquiry which these books have informed.

The books are in fact research reviews prepared for the committee, which gave them the confidence to affirm that "West Indians as a group were underachieving in relation to their peers". But why, and especially why should one "ethnic" group (West Indian) be doing so much worse than another (Asian)? Why should a group of pupils (South Asian) whose mother tongue is not English (and perhaps half of whose parents speak little or no English) whose religion and culture are outside the Judeo-Christian tradition, perform at a level roughly comparable with indigenous white youngsters: while another group (West Indian), whose language is largely a variant of standard English and whose recent cultural traditions were imposed European, do so much worse? Further, if racialism in society and the education system is a factor explaining underperformance, why the differential in performance? Research evidence in the fields of employment and housing shows that the scale of discrimination against Caribbean is much the same as that against Asians.

Before taking these questions further a general point has to be made; the categories being used - South Asian, Caribbean, etc. - are of limited usefulness for scientific research and educational policy purposes. They indicate country of origin, but the parental generation, but overlook wide cultural differences (eg Hindu, Sikh, Moslem) and considerable socio-political differences (eg inter-island differences in the West Indies), not to mention the interaction of sex differences with these factors. Such categories are too crude to sustain serious scientific examination of the scale, causes and consequences of the differences in educational functioning. Life-time educational performance has been carried on using the debate about differences in the origin of the groups, and because of that, has been less constructive than it might have been.

That said, what about the research review? One thing must be admitted: the sheer volume of material on an issue that has been part of the public debate for less than 30 years is immense (some would say of reference to different studies and reports. Admittedly the quality of research is variable, and Monica Taylor and her colleagues are meticulous in listing inadequacies of individual pieces of

## BOOKS

### Waiting for an initiative



Asian pupils outside their London school

research. Further, the material is not confined to studies of performance and ethnicity; studies have been completed on a wide range of social and educational topics from both professional and parental perspectives. Nevertheless, the performance issue dominates the literature and public debate. Even when allowance is made for limitations in sampling and test construction, deficiencies in analysis and write-up of different reports, the central finding is robust: children of West Indian origin are doing worse as a group than South Asian and white indigenous. To give one example, the committee of inquiry's own school leaver survey found that at GCE A level only 2 per cent of West Indians gained one or more passes compared with 13 per cent of Asians and 12 per cent of all other leavers, and that is consistent with many smaller research studies.

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anyone who claimed that it did". So that the Swann Committee argued "IQ has long been a sensitive and emotive issue. We hope that it can now cease to be so . . ." Arguably, the debate about performance has been taken a further step forward by Swann and the research reviews. Again, this advance follows a criticism of the interim report which, although it recognized a range of influences on school performance, argued that "racism . . . can and does have an important bearing on performance at school".

Some criticized this conclusion because it underestimated the role of racial social factors might play and therefore exaggerated the significance of racism in and out of school. The Swann Report used the research review of social and environmental factors in school performance. For example, when looking at high achievers, they found that nearly 23 per cent of white children fell into this category and around 11 per cent of West Indians, a twofold differential. When middle-class children from both groups were looked at the figures were 31 per cent and 20 per cent, ie a 50 per cent differential. They concluded, "Re-turning to our question, how much of West Indian underachievement is attributable to social class and socioeconomic factors, it is clearly difficult to give a precise figure. Perhaps, a substantial amount is the best answer. But there is no doubt that these factors do not explain all of West Indian underachievement, so that we are left with an important element still unaccounted for . . ."

Where does this leave us in arriving at an explanation? The research reviews support the position taken by Rampton and Swann that there is no single cause of black underachievement, but rather a range of interacting and overlapping causes: "a network of factors within an individual and expectations on the part of teachers and the educational system as a whole, and on the part of West Indian parents, which lead the West Indian child to have particular difficulties and face particu-

lar hurdles in achieving his or her full potential". Here, research as homework activity has not taken us much further. Conceptually we can clearly see the issues; social and economic factors are related to psychological and group ones but, in terms of empirical research, neither of these reviews has been able to report studies that take this range of factors into account and identify the mechanisms which link social conditions to individual behaviour and group differences to social context. The reason is straightforward: the task is not an empirical one in the sense of fieldwork but a theoretical/conceptual one in the sense of analysing the intellectual and practical problems and using existing material in an imaginative manner to answer the questions raised.

Why has this approach not been used to answer the "why" questions highlighted earlier? It is easy to see that the issues are complex and there is no doubt that they are. But that is only part of the story; the questions themselves are uncomfortable, threatening and potentially divisive, and these are not things that will be resolved by social research or by research reviews.

In turn this goes some way to explaining a further point: in my opinion the basic facts of black underachievement have been known for many years. There is no shortage of evidence. What has been absent is action commensurate with the need. Research can show that action is required, but it is no substitute for that action, and it is action on the causes of poor school performance that is lacking. In 1981 Lord Scarman investigated the Brixton riots and central to his recommendations in social policy was his suggestion that "the time has come for a government initiative in ethnic minority education". Earlier this year he returned to the question raised by our inner cities, and in particular whether we "are to become a successful multi-racial nation or are we on a course for a revolutionary phase in our history". Lord Scarman's plea is for the eradication of the disadvantages of poor literacy, inadequate numeracy or a lack of essential work skills. That will not come by research, research reviews or committees of inquiry, but by appropriate professional action backed by political initiatives.

It is these political initiatives that are lacking, and the consequence is not only unequal education but the attendant problems of unemployment, crime and unrest. A decade ago the All Party Select Committee on Race Relations warned of "irreconcilable divisions". Following Brixton in 1981, Handsworth, Brixton and Tottenham in 1985, Lord Scarman argued that the Government "must now press ahead with racially directed social improvements on a co-ordinated basis". Behind poor school performance is racial disadvantage that must and has not been tackled, and the responsibility lies with the government - not simply this government but successive ones.

Alan Little is professor of social administration at Goldsmiths' College, London.

## Back to Africa

**Black Paradise: the Rastafarian movement**  
by Peter B. Clarke  
Aquarian Press, £5.99  
ISBN 0 85030 428 8

A paperback with only 89 pages of text might seem scarcely worth notice here, were it not for the importance of its subject, the Rastafarian religious movement, and the absence of any rival introduction. It could do much to counter the popular image of lazy, pot-smoking and semi-criminal black people who shared responsibility for the Handsworth and other riots. The genuine, spiritually-minded Rastafarians have to be distinguished from black power activists or petty

criminals who adopt the Rasta image. This problem has haunted Rastafarianism from its beginnings as identifiable communities in Jamaica in the 1930s to the later expansion as a religion for the oppressed people anywhere - in Africa, Caribbean, eastern North America, Britain, various Asian countries, and even as far as the New Zealand Maori.

Clarke traces the authentic Rastafarian to the experience of slavery in Jamaica and the earlier back-to-Africa movements among North American blacks. He avoids the economic and social deprivation theories and of deprivation, the loss of dignity, identity, and a history. Rastafarianism is a restored humanity in their version of African history and racial history. Clarke does this well but could succeed even better with well but could succeed even better with history (over a third of the text) and fuller account of the Rasta story itself. We need more on its troubled history in Jamaica, on Bob Marley in super-

star musician and his international influence, and on its dealings with Africa. Haile Selassie's grant of five hundred acres in 1955 for a small and still surviving settlement and the unsuccessful deputations to African countries in the early 1960s do not appear.

The non-homogeneous nature of the movement is kept in view but there are only passing references to Rastafarian divisions such as the Twelve Tribes of Israel, the Nyabingi (claiming a special derivation from East African prophetess movement), and the Orthodox group where in the ancient Church of Ethiopia sought to Christianize the Rastafarian. Clarke's understandable avoidance of statistics leaves the subject open to wilder, a conservative estimate for Britain earlier in this decade suggested some 3,000 committed members.

The heart of the study is in the excellent compact chapters on beliefs, practice and sense of identity. These reveal a genuinely religious move-

ment, which Clarke helpfully sets in the wider context of African religions and of other views of salvation, reincarnation, the millennium, and Jesus. It will surprise - and annoy? - some to discover the similarity between the Rastafarian and the Christian views of the basis for religious knowledge. Likewise - and equally shocking? - there is much in common between a radical Christian ethic and Rastafarian practices of "living naturally" in peace and love within a disciplined family circle.

Clarke sees a potential Rastafarian contribution to a viable religious pluralism in Britain. I suggest that this may depend on resolution of various tensions within the movement: between inverted racism and universal brotherhood; between open hostility to all "Babylons" and acceptance of a place within white society; between local back-to-Africa hopes and the local discovery of their cultural roots; between male dominance and sophisticated women members; between un-

critical dependence on intuitive truth and more sophisticated treatments of the history of Africa, Haile Selassie, the Bible and the Jesus of history. Unfortunately readers must supply their own proofreading, and restore the second "n", and with it the meaning, to "millennium" throughout. An apology is due to Southern Baptists in the USA and to Moravians when they are labelled as "nonconformists", and to African cartographers for the misnaming of two countries and the omission of a third. The book, however, makes a good start on a series that announces similar useful works on other new religious movements.

Harold W. Turner

Dr Turner is director of the Centre for New Religious Movements at Selby Oak Colleges, Birmingham.



## Going to the wall

Anchored and their Patrons in Medieval England  
by Ann K. Warren  
University of California Press, £31.95  
ISBN 0 520 05278 1

The pursuit of holiness by individuals has often involved them in deliberate separation from their fellows, often by withdrawal to desolate places. But such separation could also be sought within the community by anchorites and anchoresses who were enclosed in cells in parish and monastic churches. It is this particular form of piety in medieval England which is examined in Professor Warren's book.

It is a wide-ranging and well-researched study, which places the movement both in the context of the individual's search for salvation and in that of wider social attitudes. Although, in one sense, anchorites could be regarded as drop-outs, their survival and maintenance depended on the social acceptance of their lifestyle. Only this could ensure that they would possess material support for an enclosed life. The attention given to patrons comprises more than half the book, and demonstrates conclusively that recluses cannot be regarded as peripheral to the religious life of the period, but must be seen as representing contemporary trends in close association of anchorites with the mysticism in the 14th century and with the reformed religious orders in the 15th. They were seen as bearing their patrons' spiritual burdens in return for material support. They were also encouraged by the ecclesiastical authorities, who took steps to ensure that the vocations of individuals were genuine before they gave them their blessing.

The flow of patronage is analysed in terms of social groups, royalty, nobility and gentry, merchants and other laymen, and the clergy. The most comprehensive analysis is that of royal support, because the evidence is greater over the whole period of the study, from the Angevin onwards, and the number of patrons is limited. There was considerable variation in the extent of endowment, both of individuals who pursued an enclosed life and of particular cells occupied by successive anchorites. It is hardly surprising that Henry III was a notable patron, in view of his other ecclesiastical concerns; indeed his support was unequalled until the 15th century, when the Lancastrian usurpation brought to the throne a family which had already, as recluses, a tradition of supporting evidence, particularly in the earlier period, makes the assessment of royal patronage selective, but the sample available demonstrates clearly the importance which many anchorites attached to securing the continuity of gifts to them often exceeded those made to other beneficiaries of such patronage.

The material employed in this study is almost exclusively printed, and while this demonstrates the importance and often neglected fact that historians do not have original research on parchment, there is one area where this may have distorted the picture. A testamentary material, and for London the author has relied largely on the supplemented to a small extent by those in printed episcopal registers. As the registers will contain no references to anchorites after 1413, it is a pity that the Privilege Court of Canterbury during the ensuing century, where much London probate material is preserved, and which contain a number of allusions to recluses.

However, the book adds a new dimension to our understanding of medieval religious attitudes, and provides some thought-provoking suggestions for further research.

J. A. F. Thomson

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This fishing print by Wenceslaus Hollar (c.1650) is reproduced in Caroline Davidson's *The Ham House Kitchen* (Victoria & Albert Museum, £3.95). Ham House is a 17th-century National Trust property near Richmond in Surrey.

## Paupers' protest

Popular Opposition to the 1834 Poor Law  
by John Knott  
Croom Helm, £19.95  
ISBN 0 7099 1532 2

When two books appear on a similar theme at the same time, as happened recently with the Newport Rising, the matter may be regarded as unfortunate. But when an author writes on the opposition to the 1834 Poor Law, just fifteen years after the appearance of Nicholson Edsall's *The Anti-Poor Law Movement, 1834-44*, justification is required. To some extent this is forthcoming. Since Edsall wrote, Chartist studies have emphasized the independence and integrity of the working-class point of view in the 1830s, and Dr Knott's aim is to bring this insight to 1834 Act. It is unfair to suggest that Dr Knott has ignored this dimension, beginning and end of his book new interpretations, which put the wider context of popular opposition to the "class-legislation" of politicians inspired by doctrinaire political economy.

The bulk of the book, though, covers much the same ground as Dr Edsall's, with rather more detail but a less coherent narrative structure. Both South, although recent scholarship suggests that the protests of the agricultural worker should be taken rather more seriously than they have been; both largely ignore the significance of East; both, in fact, write largely about the textile districts of Lancashire, Cheshire and Yorkshire, with special attention devoted to Todmorden, field, where the implementation of the law was delayed for over a year by the concerted action of anti-Poor Law protesters and popular crowd violence. Both conclude that in the end the protest movement achieved a measure of success in delaying the full implementation of the Act; and both discuss the connections between the anti-Poor Law movement and Chartism.

Surprisingly Dr Knott does not consider two of Dr Edsall's important observations, like Matthew Fletcher of Bury, originally saw Chartism as a plot to undermine their movement (the political economy of Daniel O'Connell have had the effect of alienating some of the leading local activists at a time when the opposition was faltering. On the other hand, Dr Knott does give additional useful information on Feargus O'Connor's role as an anti-Poor Law agitator and barrister,

reflecting James Epstein's revised estimate of O'Connor's character and importance.

There are several missed opportunities for pursuing the argument of the book further. Though there is some general discussion of the occupational origins of the protesters, there is no which elected anti-Poor Law guardians, although the case of Bradford clearly suggests there is a geographical system, aided by the non-proportional system of voting, between outwards and inwards. Despite one passing reference to utopian socialism, one is not told that leading characters in the book, like Samuel Bower, Lawrence Pitkeathly and William Clegg, were all active supporters of Owen at this time, although Owen was an important influence on radical working-class thought in the textile districts.

Dr Knott has failed to produce ideas sufficiently different from those of Dr Edsall to justify the publication of more than an article, but his concluding section shows that a book could have been written had his focus moved even further from the events themselves to an analysis and explanation of what lay behind them.

Edward Royle

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## Only collect

Lord Arundel and His Circle  
by David Howarth  
Yale University Press, £30.00  
ISBN 0 300 03469 5

Thomas Howard, Earl of Arundel, did more than any other Englishman in the 17th century to make the fine arts of antiquity and the Renaissance an integral part of aristocratic culture. In painting (England, statuary (France) were insignificant factors in the life of the 1620s they had become indispensable indicators of power and influence. English ambassadors found themselves turning into art dealers, and scarcely a ship docked in London from Italy or the Levant without some painting or sculpture among its cargo. Ambitious courtiers sought to fill their galleries with the new status symbols, so that, for example, the rivalry between the possessor of Titians or Holbeins seemed more concerned with his collection than with his Parliament. A revolution in taste had occurred, led principally by Lord Arundel.

Now at last we have a wonderfully detailed account of Arundel's development as a collector and connoisseur from David Howarth, who has investigated many new sources with impressive results.

## Richer and poorer

Marriage and Love in England: modes of reproduction 1300-1840  
by Alan Macfarlane  
Blackwell, £19.50  
ISBN 0 631 33992 3

In 1979 Alan Macfarlane published a devastating review of Professor Stone's *The Family, Sex and Marriage in England 1500-1800* (1977). Stone had argued that the modern mode of marriage - romantic, loving, companionate - emerged after 1640 in place of an earlier mode that was authoritarian, cold, and unfriendly; that changes he linked with the growth of individualism from the 16th to 18th centuries. Macfarlane criticized Stone for his selective use of evidence, his misuse of anthropology, and - most fundamentally - for believing in the existence of shifts in basic economic structure between 1400 and 1700 which, in fact, "did not occur at all". This last criticism stemmed from Macfarlane's *Origins of English Individualism* (1978) which claimed that even by 1400 England possessed a highly "individualized" society.

This brief excursion into historiography is necessary to place Macfarlane's latest work into context. It is all of a piece with his iconoclastic view of English history presented with increasing forcefulness, not only in *Origins*, but in his earlier studies of English society. Macfarlane's interpretation of the history of marriage is only one of several possible interpretations, one that I find personally attractive and - almost - convincing, but it is not difficult to imagine the kind of critical onslaught that Professor Stone might launch.

Macfarlane's starting point is the Malthusian marriage system. Its essence is individual choice: individuals choose whether to marry and whom to marry. Choice is made on the basis of economic, social and psychological considerations. Men and women ask: can I afford to marry? Will I lose or gain rank or status by marrying? And do I require the sexual gratification and companionship that I expect from marriage? In this system, it is important to note, marriage is not an obligation imposed by society, not a source of wealth, power, or prestige, and not even an institution for the procreation of the species although procreation is its almost inevitable consequence. The whole system is supported by "four essential underpinnings": "an accumulative ethic"; "the ranked, but mobile society which meant that people were constantly scrambling up and down a ladder of fortune"; private property; and "a

generally elevated standard of living which would give people the leisure to delay marriage. It is interesting to see that the economic level of the churchmen's near prohibition of the former could lead to the latter meant that individual choices on limited basis were not rectified. The "concomitant" made people cautious about marriage. The consequences of the Malthusian marriage system were considerable. It acted as a fertility brake, keeping the population under control and kept many people from the breeding population entirely. "Low-pressure" demographic conditions were not overwhelmed by the controlled fertility. It was put in a parcel of that "game... known as capitalism".

Accepting Macfarlane's account of the Malthusian system, we can go back at least to the 13th century, probably to the 5th and 6th centuries. England was "infiltrated" by "Germanic and Teutonic invasions" - the same neck of the woods, in fact, as he discovered the origins of English individualism. This is not surprising, seeing that Malthusian marriage is really only one aspect of individualism, and given Macfarlane's historical methods which are somewhat idiosyncratic. Thus we vigorously pursue anthropological texts, printed books, and manuscript sources - most of latter coming from England and Cumberland - for men and women who rationally count the opportunity of copulating and choose whom they love. Generally the evidence cited is strong, but one wonders whether different examples would point so unequivocally in the same direction.

When Macfarlane argues that the English were different from other Europeans in their attitudes towards marriage the argument becomes strained. As he admits, the seventeenth century is a "European age of marriage", not specifically an English one. For example, much recent work on 18th-century Ireland - a country that Macfarlane on several occasions contrasts with England - suggests that both modal and meanings at marriage were much the same as in England. The English rarely, fortunately, look so peculiar to other people as they do to themselves. This does not, of course, make Macfarlane's view of marriage odd. But it is idiosyncratic and, as such, highly stimulating.

L. A. Clarkson

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BOOKS  
Why read Berkeley?

Berkeley: the central arguments  
by A. C. Grayling  
Duckworth, £19.50  
ISBN 0 7156 2065 7

In Hans Andersen's tale the adult, the intelligent and the eminent were all impressed by the richness and elegance of the emperor's clothes: it was a child that spotted their nakedness. The paradox with discussion of Berkeley is very similar. Many distinguished philosophers have argued that Berkeley's philosophy is important, ingenious, illuminating, even true, whereas many undergraduates are convinced that it is obviously silly.

Grayling is certainly not an undergraduate, and argues with consider-

able skill that, although Berkeley's fundamental metaphysical claims are false, his views are none the less important and interesting. In the two main sections of the book we are guided through the intricate but splendid of Berkeley's system - the attack on the notion of material substance, the principle that to be is to be perceived, or to be perceived, the account of immaterial substance, and the role of the *deus ex machina* in constructing the world and making it intelligible to us. Grayling has an extraordinary command of every detail of Berkeley's work, of the recent commentaries, and of every relevant area of 20th-century philosophical discussion. This is without doubt the finest commentary on Berkeley to appear in recent years.

But the nagging doubt remains. Grayling's discussion is comprehensive, judicious and sympathetic. Yet he argues that Berkeley's basic metaphysical assumptions, and especially his theological assumptions, are unacceptable, and that therefore Berkeleyan immaterialism cannot survive. Why then should we read Berkeley? An answer emerges in various places, and particularly in the final chapter,

where Berkeley stands revealed as an important ancestor of all who shall give reasons for taking it that the notion of an objective or absolute conception of the world, of the kind which Berkeley attacks, became it sets an independently existing material realm over against experience, is incoherent - and largely for reasons Berkeley gives. Sadly, for at least two reasons the chapter is unsatisfactory. First, modern anti-realism is very much a theory of meaning, and as Grayling concedes, Berkeley and his contemporaries hardly had theories of meaning as such. Their views about meaning emerge, if at all, as consequences of their general metaphysical and ontological views. Second, many modern anti-realists would not welcome Berkeley's support. If they were to look for comfort from the past, they must more usually look at philosophers who do not hold quite such a bizarre view of the world - Hume, Kant and Wittgenstein are possible examples.

Grayling would no doubt deplore my interpretation of Berkeley, and urge me to distinguish various levels in Berkeley's philosophy: the strictly empirical or phenomenological level

of the how data of sensory experience, the level of the what (the level of ordinary thought and talk about everyday experience and its objects), and the metaphysical level (the ultimate framework of explanation for the first two). At level two, the level of ordinary scientific inquiry, Berkeley is some sort of realist. It is presumably at level three that he gives comfort to the anti-realist, and invites comparison with Duhem-Quine. The distinction of levels would no doubt make sense of Kant, who notoriously argues that the proper analysis of our scientific claims is unavoidably realist, while the full account of the origin and basis of those claims is unavoidably idealist. We must, he would say, be both empirical realists and transcendental idealists. But, pace Grayling, I detect no such distinction in Berkeley, and therefore reject the distinction between levels two and three.

T. E. Wilkerson

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## Emotional blackmail

Protecting the Vulnerable: a reanalysis of our social responsibilities  
by Robert E. Goodin  
University of Chicago Press, £21.25  
ISBN 0 226 30298 9

In Defence of Welfare  
edited by Philip Bean, John Ferris and David Wynne  
Tavistock, £8.95  
ISBN 0 422 79090 7

Robert Goodin tries to persuade us that our moral responsibilities are much wider than we often like to think. He begins by looking at the responsibilities we feel for our family and friends, and, to a lesser extent, for our neighbours and compatriots. Goodin accepts that such special relationships generate special moral claims, and then asks why they do.

The usual answer, he says, is that these are self-assumed moral obligations: you assume a special responsibility to your spouse by choosing to marry him or her, and so on. Goodin shows that this account has many problems and offers an alternative: you have special responsibilities towards anyone who is specially vulnerable to you. Thus, for example, your special responsibility to your spouse arises from his or her material and emotional vulnerability to you. But, he goes on, it is not only our families and our friends that are vulnerable to us: if we accept the usual list of special responsibilities we must, in consistency, accept many more - so many more, in fact, that the

notion of special responsibility seems in danger of losing its meaning.

If the inhabitants of rich countries give away half their incomes to aid the world's poor, the situation of the poor would be less desperate than it is. Therefore, according to Goodin, the poor are vulnerable to the rich and so the rich have a collective responsibility to give aid. Again, all future generations are vulnerable to the generations currently living, and so there is a collective responsibility to provide for the future. And so on.

I doubt if anyone is more skilful than Goodin at making this kind of argument convincing. He is logical and lucid, well-armed with telling examples and amazingly well-read. But his position sometimes seems like that of a brilliant barrister with an impossible brief. Not content with showing us that many of our special responsibilities arise out of relationships of vulnerability - and, after reading Goodin, I find this hard to deny - he seems to want to show that this is true of all of them. This is surely going too far. Suppose Archie loves Barbara. Then he is extraordinarily vulnerable to her, whether or not she has ever made any kind of commitment to him. But doesn't the extent of her responsibility towards him depend on this? Or take the case of the special responsibility one has to a benefactor. Goodin courageously takes up the challenge of trying to show that this reflects the benefactor's vulnerability to the beneficiary; but even Goodin's ingenuity is not quite enough for this task. Goodin's strategy also suffers from a fundamental and unavoidable difficulty. His aim is to achieve what John Rawls calls a "reflective equilibrium" in which our detailed moral judgments are consistent with some system

of general principles that we are prepared to accept. To justify his general principle - that we have a duty to protect the vulnerable - Goodin has to show that this principle fits well with many of our moral intuitions. He also wants to argue that this general principle yields radical moral conclusions, such as that we have a responsibility to give much of our incomes to the poor of the third world. But what makes these conclusions radical is that they are not in accord with our moral intuitions, which inevitably undermines the argument for the principle of vulnerability. It is easy to be provoked into arguing with Goodin - this is one of the virtues of his writing - but there can be no doubt that *Protecting the Vulnerable* is an important book.

In *Defence of Welfare* is a less substantial work. It is a rather mixed collection of short essays in defence of the British welfare state. For the most part they cover familiar ground. Tony Culyer disarmingly admits this in his contribution, saying that since his attitude to the welfare state has been consistent over many years, the reader's sense of *deja vu* is only to be expected. Some of the essays are polemical in character. Others, such as Raymond Plant's review of the arguments of the new right and their critics, and Tony Culyer's and Alan Maynard's discussions of the economic arguments for and against markets in welfare services, are well-balanced pieces that, although containing no surprises, could be recommended as introductory reading.

For me the most important paper was by Michael O'Higgins. O'Higgins challenges the increasingly-fashionable view that the most powerful arguments for welfare are put forward by Julian Le Grand, that public expenditure on welfare is not particularly redistributive. Egalitarian critics of the welfare state often point to statistics showing how the benefits of welfare services are distributed between households: higher-income households are shown to benefit more in absolute terms than lower-income households. But household size varies, and larger households tend to have higher total incomes (since they have more potential recipients of income). In classifying households by income we ought to take account of their size. O'Higgins uses a weighting system (0.6 for the first adult in a household, 0.4 for each subsequent adult, 0.3 for each child) to construct an equivalence scale. Using this scale to interpret Family Expenditure Survey data, he shows that the effects of taxes and social security benefits are strongly redistributive. O'Higgins's cautious verdict seems to be justified: "in terms of restricting inequality, welfare services are performing as well as might reasonably be expected in achieving the somewhat confused aims set for them".

Robert Sugden

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"The Rape of Ganymede" by Rembrandt, an illustration from James M. Saslow's *Ganymede in the Renaissance: homosexuality in art and society* (Yale University Press, £25.00).

## Histories of ideas

In the American province: studies in the history and historiography of ideas  
by David A. Hollinger  
Indiana University Press, £22.50  
ISBN 0 253 32933 7

American intellectual and cultural historians writing about the late 19th and early 20th centuries consistently acknowledge debts to two general interpretations, both widely used as undergraduate textbooks. Morton White's *Social Thought in America: the revolt against formalism* (1947, 1957) and Robert Wiebe's *The Search for Order, 1877-1920* (1967). As David Hollinger points out in an essay on Walter Lippmann reprinted in this volume, at first sight these two interpretations are contradictory. White's celebration of the thinkers (especially James and Dewey) who held out the promise of a more rational society through the adoption of humanitarianism, open-ended experimentalism sits uneasily with Wiebe's identification of a generation committed, in the face of uncertainty, complexity and the loss of traditional authority, to bureaucratic control.

That these tendencies could and did coexist is a central theme of Hollinger's reading of Lippmann's *Drift and Mastery*. "Nowhere is the antagonism toward stasis, doctrine, and absolutism more intense... and nowhere is the yearning for continuity and organized moral reality" as also a characteristic interpretive device within the 11 essays collected in *In the American Province*. These are divided into two parts. In the first ("Studies of Intellectuals in Modern America") we are presented with analyses of "American intellectuals of cosmopolitan inclinations who often felt themselves surrounded by provincials". Lippmann, William James, the "rational, ethical, ly diverse, left-of-center intelligentsia" of the interwar period, the epigones and popularizers of the pragmatists of James and Dewey, and the literary critics of the mid-century who defined and defended American modernism. In the second ("Studies in Historiography") a set of methodological essays and reviews argues that the province is a category should be "applied in a non-provincial spirit to America itself".

Cosmopolitanism and provincialism are thus claimed to be a false polarity as also, through the book, are liberalism and modernism, ethnicity and ethnocentrism, pluralism and assimilation, and most emphatically truth and religion. The historical truth of Hollinger's exchanges between such polarities, he argues, is consistently more subtle and illuminating. Thus, for example, James's pulse for "tough" laboratory both the vogue for "tough" laboratory and the "tenderness" of religious idealism are shown to intertwine deeply-held convictions about its

validity. Neither "our reason or our values" should be "inappropriately threatened by a thoroughly historical perspective".

The 1980s counterpart of these magisterial influences is the philosopher Richard Rorty. "Thinking" is redefined as a "social act", approached most conveniently through "intellectual elites". Explanation consists in the identification of "structures of meaning". The agenda itself will have two parts: a Tocquevillian agenda in the province (how do we characterize the province?) and a Jamesian agenda setting American concerns in the wider context of European and western discourse (what does the province contribute to a wider cosmopolitan dialogue?).

Throughout the book the tone is of mild reformism and relentless common sense. The results are impressive. In particular it is refreshing, and unusual given present fashion, for theoretical explorations in the history of ideas to be so closely allied to practice. In the American Province is also as it is to be expected of this press: a beautifully designed and produced book; although I suspect that the author has a contract out on the copy-editor who allowed the running-head on the first chapter through as "William James and the Culture of Inquiry".

David Watson

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## BOOKS

### **Ironie time-warp**

Essays on Chaucerian Irony  
by Earle Birney  
edited with an essay on Irony by Beryl Rowland  
University of Toronto Press, £18.75 and £9.50  
ISBN 0 8020 5624 5 and 6525 2  
Chaucer's Narrators  
by David Lawton  
Boydell & Brewer, £29.50  
ISBN 0 85991 217 5

Earle Birney is a highly regarded Canadian poet and a familiar name in the footnotes of Chaucer criticism; but the sentence most likely to secure him a place in books of quotations is the one with which *Essays in Chaucerian Irony* opens, attributed to an "anonymous freshman": "Chaucer stood with one foot in the Middle Ages and with the other on the rising dawn of the Renaissance". This establishes a tone for the book which is not concerned with irony in its more esoteric, critical-theoretical senses.

Of the eight short essays included, four appeared between 1937 and 1942, and four in 1959-60. In the interim Birney fought the Second World War, acted as the controversial and salutary new left editor of the *Canadian Poetry Magazine* from 1946 to 1948, and wrote a considerable body of poetry, novels and radio plays. Some of the latter were reworkings of subjects from early English: *Beowulf*, *Sir Gawain and the Green Knight*, *Piers Plowman* and the *Waukefield Second Shepherd's Play*. His return to Chaucer publishing in 1959-60 was a quiet one; in the later essays there are promising references to MacIntyre and Robertson, but there is little change in method or attitude since 1942. The material still sounds substantially like the author's 1936 Toronto thesis, to judge from its abstract.

There are plenty of felicities in this book, once the bluntness of the early language has withered away (Iubilius appears in Bath websters); the *Wife of Bath* is "a champion of marriage, yea of octogony"; aristocratic amours are contrasted with "the perforce more direct and practical matings of the common people". This is the language of much Chaucer criticism of the era of Chesterton - what Edmund Wilson called Chesterton's "pseudo-poetic booziness" - but its publication now creates an uncomfortable time-war. Birney contends that Chaucer's ironic positions were often explained by his relatively low-born station which meant he had to be careful not to seem to claim "gentility" as an interesting, if reductive, point which Birney, typically, does not develop (a failing shared by Beryl Rowland's unsatisfactory essay "Seven kinds of Irony" which she uses as a preface). The last four essays - on the tales of the miller, friar, monk and the pardoner - are better. The narrator of the last three are shown to share a combination of a desire to succeed by trickery with a desire to win admiration by declaring it - a striking common element which is lucidly developed by skilful close reading of the text's dramatic ironies.

The fundamental problem for Birney, amiable though his writing is, is stated clearly by David Lawton in *Chaucer's Narrators*: "Chaucerian irony has been a growth industry in there are some welcome signs that it may have reached its apogee". Lawton's vital main concern is to question the postulating of a personified, separate narrator in Chaucer's works. He is hearteningly forceful in his attack: "the idea of the *Troilus* narrator as a fourth major character in the poem must be rejected in its entirety". He substitutes for the narrator-character the poem's unfolding "a voice to serve the poem's unfolding" which is generated by requirements of context and register. In showing the development of the Chaucerian narrative persona from Jean de Meun, Lawton is entirely cogent. His chapter on the *Squire's Tale*, even if it is not as centrally concerned with the narrator as its location in this book would suggest, is the best thing I have read on that tale,

ending with the intriguing hypothesis that several of the links - the Squire's headlink, the Merchant's enlink and the far more important Merchant's prologue - could be argued, on thematic and stylistic grounds, to be the work of Hoccleve.

Lawton, then, is excellent in practice: in theory he is much less convincing. It is unsettling, if not surprising, how often we find expressions like "the voice of the cross paragon" or "It is Chaucer, not the Knight, who chooses to turn over the leaf of the *Teseida*". Yet the book's "modern prologue" which invokes in the compass of six pages Eco, Barthes, de Man, Culler, Todorov, Blanchot and Bakhtin, warns against precisely such facilities. Lawton is aware of this and disarmingly attempts to have it both ways: he claims to have "fresh new-fangled terms", just after he has bullied the hapless character-critics with them. He also slips the fact that the chapter on *The Squire's Tale* is not really about narrators at all but is "an essay on the literary history" of the tale.

But none of this theoretical uncertainty matters because Lawton's critical sureness entirely vindicates his method and makes this a most stimulating contribution to Chaucer studies, setting several longstanding critical wrongs to right.

**Bernard O'Donoghue**

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Salvador Dalí's "Lobster Telephone" is reproduced in a Tate Gallery publication called *With a Poet's Eye* (£9.95 and £5.95). The book is a collection of poems written by contemporary poets inspired by items in the Tate Gallery's permanent collection.

## A perfect couple

Mary Shelley and Frankenstein: the fate of androgyny  
by William Veeder  
University of Chicago Press, £18.95  
ISBN 0 226 85225 3

In her widowed later years, isolated in financial difficulties, and painfully sensitive to Victorian England's distaste for the romantic improprieties of her youth, Mary Shelley professed herself to be in agreement with her society's conventional view of women. "My belief is . . . that the sex of our material mechanism makes us quite though weaker, but wanting in the higher grades of intellect," she wrote in 1835. Recent feminist criticisms of *Proper Lady and the Woman Writer*, have analysed in depth the social and psychological pressures on women in Mary Shelley's time which resulted in such self-denigration. But *Frankenstein*, written only a few years after her elopement at the age of 16 with the married poet whose child she already carried, has been generally seen as a radical, if covert, critique, which ex-

presses through its revengeful monster the anger of the outsider, victimized and forbidden full social existence because of a physical, but not psychological, difference.

William Veeder, in his new study of *Frankenstein* or *The Modern Prometheus*, professes to admire the recent feminist approaches. However, as his account of Mary Shelley proceeds, it becomes clear that he reads her first novel in the light of the ideologies she espoused in her later years, and hears in it nothing but the pious protest of a mourning her husband's anti-domestic Promethean aspirations. According to Veeder, in writing the novel Mary, as a phrase, is struggling "to fulfil her role as a moral guide", and to warn "her destruction he will bring upon them domestic virtues which 'toster all the But as a full-blooded Promethean, a species which for Veeder includes 'almost all men', Percy refuses to be deflected "through the agency of a good woman" from his doomed path, the course of which has been early established in his "initial rebellion and you will fail with female and male peers". Veeder warns us, or rather warns his male readers, for though True Woman in her desire to get "her

man" can be "flawed", "Promethean man is more so". In fact "Promethean man's guilt makes true woman's dependency seem minor". And minor women certainly are within this critique which is obsessively concerned with the conflict between rebellion and resignation for men, with women seen inherently more dependent.

The world of Veeder's book is an Old Testament world, similar in its lurid colouring to current apocalyptic chapter he even goes as far as to associate Mary with the Virgin Mary, while mourning the fact that her "hideous progeny", the monster, who might, if he had died at the close of the novel, have taken with him the consequences of man's hubris and destroyed him of his original sin, is not a native moment and the possibility of redemption.

As if to deflect us from realizing the deeply patriarchal, even pre-Christian, nature of his account, Veeder makes much of his own singular concept of androgyny, which, as he sees it (and as he assures us, for he sees it) is not a fusion of, or course, that masculine and the feminine in one person, for "no individual can effect a perfect balance", but a complementary heterosexual couple. He deplores the fact that this complementary, thanks to Promethean

and readers: for instance, the possible effects (which he thinks minimal) of the Castlehaven scandal on the choice of subject and composition of *Comus*; the significance of Michaelmas day for the performance; the role of Henry Lawes in these productions. He brings to life, with an impressive array of detail and allusion, the circumstances of the households and participants and places Milton's offerings in the context of masquing generally (he points to the previous experience of the participants in performing in masques) and of other dramatic entertainments for the same households. All of this is informative and valuably enhances our understanding of the occasions of these works.

But there are other dimensions, more speculative and necessarily more critically contentious. Part of Brown's purpose is to assert the reforming and uncompromisingly moral spirit Milton employs in these entertainments: Milton employs masque to examine the moral bases of its own rituals, and the rituals of the aristocratic society he is addressing. His compliment and celebration is often muted by moral realism, sometimes strident, always zealous, defining to itself the roles of nobility. The fertile question Brown asks is what Milton the puritan republican prophet-poet was doing writing a Caroline masque in celebration of the aristocracy; and he shows Milton's celebration to be neither servile in compliment nor in breach of the decorousness of the social gesture - nor in breach of the poet's integrity.

Brown deftly discusses a number of questions that have bothered scholars

For one thing, the masque, shown - tacitly but firmly - to be need of more than a little help elsewhere, and it is Sabrina's, nor the brother's heroic emblem which finally frees the Lady from Comus's enchantment. For some, it was not tactful enough for a royal official and magistrate. Brown detects the hand of a "son" evident in the presentation, the text used in performance. In both Milton's Trinity MS and the printed text of 1637, and this is the relationship between these versions: the reforming spirit was clear in Milton's original version, as the moves further from the actual re- quiring these intentions are clarified: hardened. For instance, the Bridgwater MS has the boys join in the verses, and Lord Brackley not to Lawes the attendant Spirit (in the sister to rise from the chair: "a conflict is between a passively symbolically appropriate and the people indignity of having the President's mere spectators"). Milton's original Brown calls "his original intention" 1637, where the children are passive silent. In Bridgewater too some of the stark moral realism of Comus's key- aged 15) has gone; she does not Comus of his trying to ensure he "credulous innocence" with "black baits" (that is, his enchanting cap, presumably because it admitted that the Lady was vulnerable and credulous to begin with, and it brought into focus the festination in which the audience and actors had, in a sense, just been engaged. Some of the excisions are not without their humorous side: the "in another country" of the Haemony allegory may have been thought critical of the priesthood in Wales and the borders; and the line about Sabrina's healing of the local herds with her "precious vial liquors" (which is omitted in Bridgewater) may have discourteously implied that Ludlow cattle "were in constant need of veterinary care".

We are warned of the dangers of allowing hindsight to blur our sense of the relationship between Milton and the aristocracy in the 1630s. Undoubtedly Milton, with growing sense of vocation, preaching in these entertainments, but there is no sense yet of the gulf that was to open up, such that, some 15 years after the performance of *Comus*, the Elder Brother, embittered by political developments and by the burdens of debt, could endorse one of Milton's books which came into the Bridgewater library, the *Defensio*: "the book deserves the flames, the author the gallows".

**R. D. Bedford**

R. D. Bedford is lecturer in English at the University of Leicester.

## BOOKS

### **Customary law**

Law, Custom and Social Order: the colonial experience in Malawi and Zambia  
by Martin Chanock  
Cambridge University Press, £25.00  
ISBN 0 521 30137 8

Very few works of African history speak directly to anthropologists or to lawyers, and as Dr Martin Chanock notes, "the revolution in African historical writing has not had much effect on the understanding of the African legal past. Legal history has not been written by general historians." But Chanock's own writings have been exceptional in this respect, and we have come to look forward to the thoughtful and interesting correctives which he generally offers to our ways of looking at things. *Law, Custom and Social Order*, in which he treats extensively some general themes he has touched on briefly before, more than satisfies these expectations. This fluent, well-written book will surely come to be seen as one of the most important contributions to the study of "customary law" to have appeared in recent decades.

Chanock describes his book as "an attempt to understand the historical formation of that part of African law known as customary law". In the course of this attempt he calls for some extensive changes in the way in which African customary law (and by implication "customary law" in any non-western society) has generally been thought about. He begins by questioning the assumption that the arrival of colonial rule broke in upon an established, egalitarian normality in Central Africa, and that through the recognition and preservation of "customary law" in the arrangements of local government during the colonial period an element of continuity was secured. According to Chanock, none of these things was true. In the first place, the area which was to become Malawi and Zambia was in a state of upheaval in the latter part of the 19th century, the site of slave-trading and warfare. Moreover, what we have come to identify as African customary law is a subsequent creation of the colonial period with minimal links to any African "past".

In Central Africa developed law came first, while the elaborated customary law came afterwards, not an embryonic form of, but a product of the western legal form, the colonial state, and its economy. Further, this "invented" customary law operated to keep in place a hierarchy of oppressive domination: of African subjects by their colonial masters; of juniors by elders; of women by men.

The broad outlines of this revision were already familiar from Chanock's own earlier work and from that of others like Hobsbawm and Snyder.

## A hard Act to follow

Sentencing Young People: what went wrong with the Criminal Justice Act 1982  
by Elizabeth Burney  
Gower, £12.95  
ISBN 0 566 05127 3

The Criminal Justice Act 1982 went through Parliament like a snowball rolling downhill, gathering size as it went with the addition of new clauses at every stage. Many of its provisions result from amendments introduced without the processes of prior consultation and reflection which used to be customary in such matters. Various back-bench proposals were accepted by the government, only to be negated by a further government amendment.

One example is section 2, dealing with social inquiry reports. It has only to be read for its absurdity to be



This wood carving from Nigeria shows a British colonial officer on tour in his administrative district. The picture is taken from the seventh edition of *World Civilizations* by Edward McNall Burns et al published by Norton in three volumes at £12.50 per volume.

But here the argument is supported with an impressively detailed study of a single region. Chanock begins with an account and critique of the way in which African law has been written about by historians, anthropologists and lawyers. He then documents the approach of early administrators in Malawi and Zambia to customary systems, the entanglement of the missions in the local administration of the area, and the establishment and operation of indirect rule. Throughout this reconstruction Chanock rightly concentrates upon those central institutions of slavery, witchcraft and marriage, and keeps firmly in view the enormous transformations which were taking place in the economic sphere. From this history we get the most convincing picture yet available of the ways in which different groups in the region at the time viewed what was going on and tried to handle the situation. Chanock shows clearly whose view of what custom received recognition, and which interests were promoted through the forms of local administration which came to be set up.

While this is generally a very persuasive account, I would argue for some marginal readjustments of perspective. First, the story Chanock tells is at every level one of unrelieved domination, even if brought about more by the covert operation of ideology than by open coercion. In the light of earlier, sentimental discussions of customary law it was crucial that "domination" should be brought fully into the picture; but there is a danger that it becomes the whole story. It is a mistake to see social life, the reproduction of "pattern" and the process of change, entirely in terms of interaction between those "above" and those "below". Even if we grant that hierarchy is

somehow central to social life, too inflexible a top-down, one-way picture is difficult to sustain. Action takes place in both directions; there is always some room for manoeuvre. "Customary law", whatever we take its provenance to be, provides means of resistance as well as instruments of oppression.

Second, I have difficulties with Chanock's presentation of African customary law in terms of novelty and invention, the idea of profound discontinuity between customary law in the colonial period and the normative commitments (diverse as these may well have been) of Africans in the pre-colonial past. Some of the time Chanock appears to be suggesting a clean break, the formulation and reception, more or less intact, of some novel world view. But this is not what happened; the makers/users of this "new" customary law were working within an existing universe of understandings, transforming gradually rather than abruptly eradicating. The very potency of "colonial customary law" lay in its links with the past, the chords which it struck upon existing strings of commitment. However that may be, the cases of Malawi and Zambia should not be treated as representing patterns universal in "British" Africa. Elsewhere (in Botswana, for example) vigorous, indigenous governmental arrangements were already in place, forming a ready-made tier of local administration. Where this was the case, the transition to colonial rule was far less obstructive than in some areas of Malawi where "headmen" had to be created.

Lastly, even if we accept without reservation Chanock's view that "in Central Africa developed law came first, while elaborated customary law came afterwards", the extent to which

that customary law of the colonial courts entered the lifeworld of most Africans must remain problematic. Chanock is open in noting that his work "substantially concerns those aspects of African law, life and dispute processing which came within the ambit of colonial institutions". The question here is, how much of African life took place outside those institutions? For much of the book one gets the impression that very little escaped this influence; even where neo-traditional authorities had a limited reach, the impact of economic change was pervasive. But at one point he writes that "it was by no means inevitable that Africans would adopt and use these forms and many remained largely untransformed by this mode of conceptualizing power and order". On the whole, I would argue for a rather greater degree of autonomy for the ruled than Chanock generally concedes; and even where Africans directly experienced colonial customary law through contact with the agents of indirect rule, their normative commitments were not necessarily altered by that experience.

These points represent no more than differences of emphasis. *Law, Custom and Social Order* must force anthropologists, historians and lawyers to recognize, and so profit from, the shared elements of their respective enterprises. Chanock's fellow historians will need no encouragement to read this book; anthropologists and lawyers must do so too.

**Simon Roberts**

Simon Roberts is reader in law at the London School of Economics and Political Science.

ences on the others? Not surprisingly, Mrs Burney finds that the courts she studied either fail to follow the statutory formula at all (or at least fail to comply with the statutory requirement to record the criterion which is found to be fulfilled), or fail to give any explanation of why the court considered the criterion to be satisfied in the particular case. There are also divergences in the interpretation of particular parts of the criteria. Some of the blame for this must fall on the higher courts, who have not shown much interest in examining the application and interpretation of these provisions, but the real lesson of this useful piece of research is for legislators. If they intend to take greater control of sentencing, as they undoubtedly are entitled to do, they must try to make a better job of it than was done in the 1982 Act. Statutory criteria for sentencing may have some value, but unless they are carefully thought out against the background of the type of decisions in which courts will have to apply them.

**D. A. Thomas**

D. A. Thomas is a fellow of Trinity Hall, Cambridge.

## Triumphs of the Bill

Police Powers and Accountability  
by John L. Lambert  
Croom Helm, £16.95  
ISBN 0 7099 1664 4

In a democratic society the English police are odd, a body exercising legal powers in the public interest yet resisting normal democratic restraint on the ground that they should be independent of party political control. But policing policies have political implications, as the 1984-85 miners' strike showed, and there is a growing feeling that the police should be accountable for their actions in the same way as other public bodies. Their powers, the merits and methods of achieving democratic accountability, and the investigation of complaints against the police are the main issues John Lambert addresses in his book.

A major problem for the police in maintaining public confidence, Lambert suggests, is that they try to fulfil conflicting roles. On the one hand, they foster the view of the typical constable as a Dixon of Dock Green figure. This encourages us to regard the police as untrained social workers. At the same time, many policemen (and others) see control and detection as the main role of the police rather than community policing. This creates problems for the image of the police in their own eyes and those of the public.

The police are similarly ambivalent towards the idea of political control. Police authorities, which foot half the bill for policing, are increasingly frustrated by their exclusion from policy-making. The need for independence from party political considerations has been the main argument against giving any control over the police to elected police authorities, but Lambert points out that the much-vaulted independence of the police can be overplayed. Central government influences police policy by decisions on funding, Home Office circulars and informal advice given to Chief Constables. However, the book contains little discussion of the significance of the miners' strike of 1984-85 for policing. One feature of the strike was the way the Government distanced itself from the dispute and deplored the police operations as simple law enforcement. The decisions made by police officers were not simple. They involved balancing conflicting interests. By disingenuously disclaiming responsibility for police decisions, the Government ensured that nobody was politically accountable for the results. Public confidence is further undermined by a complaints procedure which, even under lay supervision via the Police Complaints Authority, involves the police in investigating themselves. Lambert advocates lay police ombudsmen to investigate complaints, an attractive idea if those with the necessary expertise can be recruited.

The chapters on powers are clear and accurate accounts of the law. There is welcome criticism of the power under the Police and Criminal Evidence Act 1984 to conduct "intimate searches" - ie searches of the body orifices of an arrested person - and of section 78 of the Act, which gives trial judges power to exclude evidence which would otherwise be admissible if in the circumstances it would render the proceedings unfair to admit it. The section is so vague that it seems to be merely cosmetic, designed to look good while doing very little.

The book is aimed at students and provides an interesting and balanced introduction to a controversial area in which enthusiasm often breeds dogmatism. It is also reliable on the law. Against that, the reader will find it difficult to follow themes through the book as there is little connection between the chapters on accountability and those on powers. Degree level students will probably need more detail on the structure and sociology of the police than Lambert can provide in the space available. Furthermore, the book is relatively expensive. Students may well get better value for money by buying a combination of cheaper books. Lambert's book is interesting, but there may not be a market for it at its price.

**David Feldman**

David Feldman is lecturer in law at the University of Bristol.



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## BOOKS

## CHEMISTRY

## Chemist's art

The Problems of Chemistry

by W. Graham Richards

Oxford University Press,

£12.50 and £3.95

ISBN 0 19 219191 8 and 2891723

The problem with chemistry is that most people know very little about it, and what they do know is probably inaccurate or misconceived. Indeed many people seem to have a poor regard for chemistry: after all, chemists are somehow responsible for acid rain and other kinds of pollution, and for the disasters at Seveso and Bhopal.

Yet any list of developments that have dramatically improved survival and/or the quality of life would surely include the Haber process for ammonia (and hence fertilizers); penicillin and other antibiotics; polymers like polythene, PVC, nylon and polystyrene; the contraceptive pill; and silicon chips. Although chemists have played major roles in each of these areas, this is often overlooked. When chemistry does receive media coverage, it is usually because someone has discovered some sort of contamination (of wine, for example); or pollution ("toxic cloud of deadly gas released in accident"); or items that are hard to take seriously, such as a recent *Tomorrow's World* report concerning a new chemical treatment to prevent windows getting dirty.

It is against this background of ignorance and misconception that Graham Richards's book should be considered. Aimed at the non-specialist reader, it is pitched at about the level of a good *Horizon* programme. Commencing with the origin of the universe in the "big bang", Richards first provides a good introduction to atomic and molecular structure and to the various branches of chemistry.

However, although in general he does not patronize the reader by describing analytical chemists as "unfashionable but extremely important" he does nothing to further the case for chemistry as a dynamic discipline.

The basic facts about the Earth's atmosphere, crust, rivers and seas are discussed in terms of gases, solids, and liquids. With this essential information imparted, the author then turns to areas in which the chemical connection is often forgotten. This is no more apparent than in the chapter on molecules and life: although the present glamour of genetic engineering is usually associated with biology, the requisite DNA sequences must be identified and often synthesized; and this is still very much the province of

chemists. Similarly, major advances in our understanding of protein structure and function owe much to the chemists' art, a point that is cogently demonstrated when Richards explains that one aberrant amino acid, out of a total of 20, changes the physical properties of the haemoglobin molecule as to cause sickle cell anaemia. This is a good example of a genetically determined disease where the cause is understood at the molecular level.

There is a good chapter dealing with symmetry, a vitally important feature in chemistry because most biologically active molecules - drugs, natural enzyme substrates, or flavour molecules - exert their action via a specific interaction with a receptor site of defined three-dimensional structure. Richards discusses these types of molecule in more detail when he explains about hormones, the nervous system, and the various classes of drugs. The particularly enjoyable section on the chemistry of cooking and food processing should have something to offer to all those who have ever peered into a frying pan or microwave oven.

Turning to commercial chemistry, energy, dyestuffs, the heavy chemical industry, and the pharmaceutical and agricultural chemical industries, Richards outlines how these manufacture products for general use and for specialized outlets - including chemicals for pleasure (colour photography, for example). Indeed, Richards quite rightly reminds us that "most of the largest companies in the world are producers of chemicals", the "strategic impact" of the chemical industry being

felt by perhaps 40 per cent of the economy while consuming less than five per cent of the gross national product.

The book ends with a chapter on the actual practice of chemistry, and should dispel a number of those promises. This last chapter is a disappointment, because it is rather negative. Here, the reader is confronted with pollution (chemical and nuclear), and chemical waste. Although these are certainly problems of chemistry, we hear too much about them. On a more positive note, the final paragraph holds out some hope for the future - with revolutions on the way in the study of brain chemistry, and in the design of new materials and electronic devices. To this list should be added monoclonal antibodies (the is, specific for one cell type) on which chemists will attach labels for treatment of cancer; the good prospects for an understanding of diseases like arthritis and cancer at the molecular level; and the design of new catalysts for the conversion of coal and methane into petrochemicals.

Graham Richards's book should heighten awareness of what the chemist has to offer and help dispel some of the ignorance that abounds. It seems to be widely read.

John Mann

John Mann is lecturer in chemistry at the University of Reading.



The analytical chemist Sir James Dewar reigned as resident professor at the Royal Institution from 1887 to 1923. This photograph is taken from the late Gwendy Caroe's *The Royal Institution: an informal history* (John Murray, £13.95).

## Statistical repository

Chemistry in America, 1876-1976:

historical indicators

by Arnold Thackray, Jeffrey L.

Sturculo, P. Thomas Carroll and

Robert Bud

Reidel, D6210.00

ISBN 90 277 1720 6

"In the second century of the Christian Aera, the Empire of Rome comprehended the fairest parts of the earth and the most civilized portion of mankind." When Edward Gibbon wrote that majestic opening sentence, he made a judgement which was in part quantitative. In recent decades he might not have got away with it, at least among advocates of the quantitative approach to history, unless his grand generalization had been supported by numbers.

During the past 20 years, social and economic historians in particular have increasingly used numerical methods to give precision to what would otherwise remain dimly perceived hunches. Population statistics, employment figures, production tonnages and export detection of trends, such numbers, "indicators", and a sizeable literature.

has evolved around their selection and use.

*Chemistry in America*, devoted to the identification and manipulation of indicators assessing the changing place of chemistry in American life, takes the form of a collection of tables with a commentary. Apart from the tables (which occupy 252 pages), there is a bibliography of 855 items with an explanatory essay, three appendices (one devoted to the mathematical treatment of errors) and a very thorough index running to 14 pages. In a leave some 200 pages for text, but that space is further curtailed by 152 footnotes and 80 graphs and histograms (there are no photographs). The narrative is thus reduced to little over 20 per cent of the book.

After defining the boundaries of their study, the authors examine a number of trends: chemistry as an occupation and a profession; chemical education as vocational training and cultural enrichment; the chemical industry as the weakest chapter, elsewhere in the book; chemistry in government, industry and teaching; and necessarily concentrated, but here and there breaking through, the chemical education begins to look like a all directions.

The tables set out a prodigious quantity of information: indeed, the labour of collection and collation must

have been daunting. Among the topics analysed are numbers of chemistry degrees conferred at all levels; high-school chemistry enrolments; space devoted to chemistry in encyclopaedias; production, employment and capital in the American chemical industry; distribution of United States patents between individuals, corporations and government; and election of chemists to the National Academy of Sciences.

As the book covers the first century of the American Chemical Society (ACS), statistics of membership, publications and divisional classifications are naturally prominent. The curious may learn, for example, the average age of ACS presidents during their tenure of office, and the institutions from which they graduated. Since 1955, the University of Illinois has led that particular field. Some of the tables are so crowded that reading becomes difficult, a criticism that applies also to many of the graphs.

In the preface, the authors state that "this volume does not offer history"; and they are right. Indeed, the book is less about chemistry than about what can be done with indicators. Future historians of American chemistry, however, will be thankful for such a repository of statistics.

W. A. Campbell

W. A. Campbell is chairman of the historical group of the Royal Society of Chemistry.

## BOOKS

## CHEMISTRY

## Breathing space

Air composition and chemistry

by Peter Brimblecombe

Cambridge University Press,

£25.00 and £8.95

ISBN 0 521 25518 X and 27523 7

(to be published on 8th May)

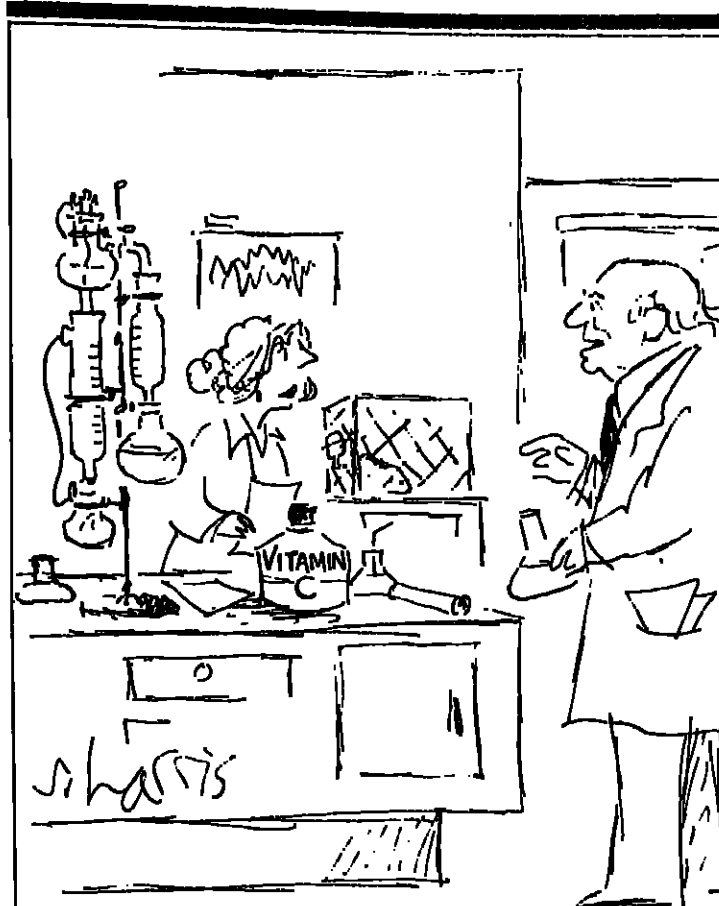
The past few decades have seen unparalleled advances in our knowledge of the chemical composition of the atmospheres of Earth and the planets and of the chemical transformations occurring within these atmospheres. Atmospheric chemistry has become a science in which creative ideas are emerging. It is also a major area of interest to physicists as well as chemists.

Exploration of atmospheres, first of Earth and then of other solar system bodies, in the rocket and satellite programmes of recent years, has made possible direct measurements of their detailed chemical composition. Investigations were thus no longer confined to regions fairly near Earth's surface or to remote sensing through much of our own atmosphere.

During the same period, tools have become available to the laboratory photochemist and kineticist that have made possible the study of many so-called "elementary" reactions of the atoms, radicals, ions and excited species that are highly reactive intermediates in atmospheric chemical transformations. Reliable mathematical models of atmospheric chemistry can thus be constructed and used not only to interpret present-day behaviour but also to understand ancient atmospheres and to predict how atmospheres might change in the future.

Atmospheric composition of the Earth's atmosphere is important to us in several ways. Most obviously, we depend on oxygen in the air for respiration. Oxygen, however, also plays a second role, because it leads to the presence of a layer of ozone in the stratosphere (at an altitude of 30-40 kilometres) that protects living organisms on the Earth's surface from harmful ultraviolet radiation. The composition of the atmosphere, together with the distance of the Earth from the Sun, determines the atmospheric energy budget, which in turn determines among other things the temperature at the surface and the pattern of atmospheric circulation that redistributes solar energy over the globe. Carbon dioxide in our atmosphere plays a particularly important part in trapping solar radiation (the "greenhouse effect"), but other minor constituents such as methane, nitrous oxide and ozone are also important "greenhouse" gases. The chemistry of these species therefore also has an influence on atmospheric temperature structure.

Our improved understanding of the atmospheres of other planets and satellites in the solar system has emphasized the peculiar nature of our own oxidizing, but not oxidized, atmosphere. Planet Earth has an atmosphere that does not seem to have been obeying the laws of chemical thermodynamics for hundreds of millions of years. Indeed, most of the species in the atmosphere are present at concentrations far from their equilibrium values. Biological processes are dominant in the production of the oxidizable components of the atmosphere - that is, they bring about thermodynamic disequilibrium and effectively reduce the entropy of the atmosphere, using solar energy to drive the reduction. Almost all the oxygen in the present-day atmosphere is of biological origin, and biological sources can also be found for virtually every naturally-occurring trace constituent. Indeed, James Lovelock has proposed in his Gaia hypothesis that the interaction between life and the atmosphere is so intense that the atmosphere may be regarded as an extension of the biosphere. According to this view, chemistry, pressures and temperatures are all regulated for the benefit of the biosphere, with each trace gas acting as a chemical information carrier in a closed feedback system. Man has become increasingly



"ACTUALLY I STARTED OUT IN QUANTUM MECHANICS, BUT SOMEWHERE ALONG THE WAY I TOOK A WRONG TURN."

"Actually I started out in quantum mechanics, but somewhere along the way I took a wrong turn". This cartoon is taken from *How to Live Longer and Feel Better* by Linus Pauling, the eminent American chemist, recipient of two Nobel prizes and champion of the powers of vitamin C. The book is published by Freeman at £15.95 and £5.95.

aware during the past few years that the results of many of his activities could have damaging effects on his own atmosphere, leading perhaps to an irreversible climatic change. The development of the science of atmospheric chemistry has provided a framework for the rational discussion of possible threats to the environment and of sensible control strategies.

Peter Brimblecombe's book is an attempt to provide the background to atmospheric composition and chemistry for the non-specialist scientist. The book starts with a fairly short introduction to the physics of Earth's atmosphere, before discussing the sources, sinks and cycles of the air's various natural components. Transformation chemistry is dealt with rather briefly, with seven pages being devoted to generalities about reaction kinetics and photochemistry and four to the specific chemistry relevant to the lowest region of the atmosphere, the troposphere. There follow two chapters on aerosols and on cloud droplets, rainfall and air-sea exchange. One-third of the book is then devoted to the sources and effects of air pollution. However, although pollution is of great practical significance, I wonder whether in an introductory text on air this balance is quite right.

For Brimblecombe, the upper atmosphere starts above the tropopause, at an altitude of about 15 kilometres. It is true that most of the mass of the atmosphere lies below that altitude, and that the biological sources and sinks are generally near the planet's surface, but it seems to me that the peculiar importance of ozone in the Earth's atmosphere warrants rather more than the few pages devoted to stratospheric chemistry. Similarly, although charged particles represent only a tiny fraction of the atmospheric mass, they play a crucial role in many geophysical phenomena (and in radio communication). It is a pity, therefore, that ion chemistry is dismissed in three pages.

The final chapter is mostly concerned with the atmospheres of other planets and satellites; it concludes with a discussion of the evolution of atmospheres and of the origin of life on Earth. Although my own choice of examples for an introductory text would be somewhat different, this chapter serves a valuable purpose in putting the Earth's atmosphere in perspective.

The emphasis of the work probably reflects Brimblecombe's own research interests. In the first part, the presentation seems secure enough, some

curiosities in the chemistry doubtless resulting from the need for brevity; but there are a few errors and misconceptions in the final two chapters. In

## Richard Wayne

Richard Wayne is lecturer in physical chemistry at the University of Oxford, and author of "Chemistry of Atmospheres" (Oxford University Press, 1986).

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# BOOKS

## CHEMISTRY

### Stable nuclei

**Molecular Electromagnetism**  
by A. Hinchcliffe and R. W. Munn  
Wiley, £34.95 and £9.95  
ISBN 0 471 10292 X and 90721 9

The properties of molecules fall into two main groups. One consists of their chemical properties, where the interest lies in the manner in which atoms can change partners and new substances can emerge from old. The second consists of their physical properties - the properties of individual

molecules and of aggregates of molecules acting together as bulk samples for which the structural changes the molecules can undergo are irrelevant. Almost all the physical properties of molecules are the consequence of the electromagnetic interactions among charged particles - especially between electrons and atomic nuclei - and of the effect on these particles of electromagnetic fields. Indeed, chemists are rarely interested directly in gravitational interactions and more rarely still in the very short-range strong and weak interactions responsible for the stability and otherwise of nuclei. However, this segregation of the forces into the chemically interesting electromagnetic and the largely irrelevant others is beginning to fray at its edge now that interest is turning with increasing seriousness to the role of the weak interaction in chemistry, and the possibility that its tiny modification of the electromagnetic interaction is responsible for some aspects of the structures of proteins and hence of the basis of life itself.

Hinchcliffe and Munn's text on the electromagnetic interactions of molecules deals with the groundwork of most but not all of what is currently interesting for chemists in the understanding of the physical properties of matter. Based on a course in chemical physics at the University of Manchester Institute of Science and Technology, it has been published in an attempt to provide an undergraduate text dealing with electromagnetism from a molecular point of view as distinct from the enormous number that treat matter as continuous and structureless.

Part one provides a succinct but very clear account of the basic principles of electromagnetism, of the sort to be found in any text dealing with the background to the Maxwell equations, and succeeds in describing those aspects of the Maxwell equations that undergraduates often find obscure. Although the treatment is not particularly novel, readers looking for an introduction to this important field should find it gives them what they

need, with just enough worked examples (and problems with hints) to help them on their way. Part two builds on the first with an account of the classical theory of the electromagnetic properties of matter, such as the molecular multipole moments, optical activity, and magnetic susceptibility. The tone here is more discursive, but I liked the brick wall mentioned with just about the right amount of theoretical and, in a few cases, experimental detail.

Part three presents a quantum-mechanical description of the electromagnetic properties of molecules. Such descriptions all build down to being various applications of perturbation theory, where the response of the molecule to a static or an oscillating electromagnetic field is calculated by regarding the field as causing a small distortion of the molecule's energy levels and wavefunctions. The authors approach the discussion along a reasonably standard track, of deducing the Hamiltonian they need, setting up

conventional time-independent time-dependent perturbation theory, and then applying the techniques to typical properties, such as polarizability, light scattering, and so on. Here, I was grateful to find among the discussion of these phenomena, a correct discussion of lifetime broadening. Chemists wanting to get to grips with quantum-mechanical descriptions of the electromagnetic properties of matter will find this book informative without being cluttered, and I can only commend it as a useful addition to the chemist's education. It is included some of the material presented here.

**P. W. Atkins**

P. W. Atkins is university lecturer in physical chemistry and fellow of St John College, Oxford.

### Diverse elements

**Environmental Chemistry**  
by Peter O'Neill  
Allen & Unwin, £20.00 and £8.95  
ISBN 0 04 551085 7 and 551086 5

Any book on a subject that presents itself as a subdivision of a discipline must have a clearly defined relationship with that discipline. This relationship should have two dimensions: first, the nature of the subdivision - for example, the physical, analytical or atmospheric subdivisions of chemistry; and second, the level of background assumed. Analytical chemistry is a good example, because it is an established interdisciplinary subject, so that authors do not feel the need to explain the fundamentals of atomic or molecular structure nor the basic physical laws. These are the bases on which they build.

In such a poorly defined area as environmental chemistry, however, the question facing authors is "What relationship should environmental chemistry have to basic chemistry?" Intended for use by students of chemistry, environmental science, geology, physical geography, biology, ecology, this book claims to require only a "minimum of background knowledge" and to be "accessible to a wide readership". This is a formidable aim, for it is possible to fall between too many stools, with dire consequences for those trying to balance on them. Peter O'Neill casts a wide net in defining his subject-area and then divides it into four parts, the first of which describes the history of our oxygen-rich planet, the development of life, geochemical cycles, photosynthesis, and ozone formation/destruction. Although this is well handled, the problem of the level of treatment soon intrudes. When discussing the distribution of elements in the world, for example, the author becomes too technical in his descriptions of accuracy, precision, the normal and log-normal distributions, and in-



This photograph of soldiers wearing mouthpads to prevent the entry of chlorine gas was taken in France in 1915. The bottles contain sodium thiosulphate solution ("hypo"), in which the masks had to be dipped. From L. F. Haber's *The Poisonous Cloud: Chemical Warfare in the First World War* (Oxford University Press, £35.00).

strumental sensitivities. On the other hand, in the very useful and wide-ranging chapter on oxygen, the description of the oxygen cycle is followed by an explanation of atomic and molecular structure, covalent and ionic bonding, and a definition of anion and cation - essentially Ordinary level material. The level then shifts again, when the author discusses the mechanism of the ozone cycle and the effect of chlorofluorocarbons in the atmosphere.

Part two deals with the major elements found in living matter - hydrogen, carbon, nitrogen and sulphur. In each chapter, the role of both natural and man-made processes in the cycles of elements is well described, but again the problem of changing levels of discussion complicates the discussion. The chapter on hydrogen, for example, wanders off into nuclear structure and radioactivity before coming back to water, its natural cycle and the physical properties of an individual water molecule. Water and the structure of solutions and acid-base behaviour are also de-

scribed. The chapter on carbon becomes involved in trying to explain entropy in the context of energy, when the level of treatment does not require development beyond the First Law of Thermodynamics. The chapter on sulphur, however, deals with the problem of acid rain in a well-integrated manner. In part three, on the major elements in the Earth's crust, at last we reach a confident, uniform level of treatment with silicon, iron, aluminium, calcium and magnesium (together), and sodium and potassium (together) all being discussed in very stimulating ways. For example, the chapter on calcium and magnesium describes their geochemical cycles and the formation of calcareous rocks; and the implications of water hardness for health (in particular, heart disease) are handled in a very instructive way. Indeed, this latter represents a good example of what environmental chemistry is about.

The final part examines the major elements in the environment and pollution problems. An introduction succinctly discusses pollution; the last cycle is well described; and the classic diagram is presented of the combination of food, water and air to the human daily intake and its final distribution. Some very good points are made - for example, that the lead made from some domestic waste supplies increased when treatment stopped during the 1983 water workers' strike. But current developments in removing lead from petrol, and their implications, are not mentioned. Mercury, zinc and cadmium, and then phosphorus are described in terms of their sources, uses and abuses, and the environmental problems in which they are involved.

Somewhere inside this book there is a good one trying to get out. If the problem of the level of the readership assumed could be resolved, then O'Neill's approach might contribute to providing a clear definition of what is meant by "environmental chemistry".

**Malcolm Fox**

Malcolm Fox is a principal lecturer in the school of chemistry at Leicester Polytechnic, currently seconded as the deputy-director of an Open Tech distance learning project on pollution control.

# BOOKS

## CHEMISTRY

### Raw materials

**An Introduction to Industrial Chemistry**  
edited by C.A. Heaton  
Blackie, £14.95  
ISBN 0 249 44165 9  
The Chemical Industry  
edited by C.A. Heaton  
Blackie, £15.95  
ISBN 0 216 91803 0

"The growing interest in the study of industrial chemistry in undergraduate (chemistry) courses clearly required the availability of suitable accompanying textbooks," writes Heaton in the introduction to his two-volume work on the chemical industry. That initial assumption, however, is debatable: indeed, the last generation has seen a largely successful opposition by the academic "pure" chemists to the selling of their courses by the intrusion of industry and commerce. About 35 years after the start of the petrochemical revolution, there are about four chairs of industrial chemistry at British universities and a handful

of courses. To be sure, many undergraduate syllabuses contain a few reactions used industrially - for example, the cumene/phenol reaction - but the time all the early arrows have been inserted, the industrial aspects have been decently obscured.

The consequences have been predictable. Since 1970 the British output of new industrial processes outside the pharmaceutical sector has been tiny - only five low-pressure ammonia processes (if it is widely adopted) come to mind. The reason for welcoming Heaton's books, therefore, is not that they answer the needs of countless undergraduates but that they provide the first general review of the chemical industry to appear for several years.

*An Introduction to Industrial Chemistry* contains chapters on sources of chemicals and the world's major chemical industries; on organization and finance and technological economics; on chemical engineering, energy, environmental pollution control; and on catalysts and catalysis and petrochemicals. It is thus fairly light on chemistry but strong on related topics. An attempt to redress the balance is made in *The Chemical Industry* which contains chapters on polymers and dyestuffs; the chlor-alkali, sulphur, nitrogen and phosphorus industries; on the pharmaceutical industry; on agrochemicals; and on biological catalysts and biotechnology.

Inevitably, the chapters are of varying quality. Particularly interesting items include Pennington's explanation of the concept of net primary energy requirement per unit of pro-

The experiments are divided into two groups according to the approximate cost of necessary equipment: group A limits the cost to £1,000, whereas group B allows it to rise to a maximum of £12,000, although many cost less than this. The upper limit precludes nuclear magnetic resonance and mass spectrometry. This is a pity, particularly as most departments of higher education can arrange for student access to such equipment, even though it has been bought for other purposes.

The experiments take three or four hours to complete and are imaginatively chosen. True, they do not include whole-body or metal-metal analysis, but the author makes a creditable attempt to use common materials as samples - for example, the characterization of peppermint oils found in branded mints or toothpastes, the amount of zinc in vitamin pills, the identification of samples of raw fish, and the iron content of canned beer.

Although some will disagree with the author's choice of experiments, this is an excellent, inexpensive collection, useful as it is to generate ideas. The book will certainly grow with each new edition.

Sternhell and Kalman's book, concentrating on spectroscopic techniques, arises from a third-year course consisting of nine lectures and eight two-hour problem classes given at the University of Sydney. The entire book will be valuable only to someone who gives a very similar course; the printed lecture notes are probably more suitable as revision material than for detailed study, since the authors admit they are highly compressed.

Two-thirds of the book, however, comprises a good collection of spectroscopic problems, offering excellent value in the paperback edition. Each problem shows the infra-red, mass, ultra-violet, and nuclear magnetic resonance spectrum of a carefully graded series of 115 molecules, the book differing from most earlier collections of such problems in that it always includes the carbon-13 nuclear magnetic resonance spectrum, often in the proton mode. In addition, there are extra 15 problems inviting students to comment on or predict the pattern of nuclear magnetic resonance signals in various coupled systems. Although answers are not given, these are said to be available from the publishers to "bona fide instructors". This is altogether a very worthy collection, pages from which will find their way into many student problem classes.

**C. N. Banwell**  
C. N. Banwell is lecturer in the school of chemistry and molecular sciences at the University of Sussex.  
A second edition of J. N. Murrell, S. F. A. Kettle and J. M. Tedder's *The Chemical Bond* has been published by Wiley at £19.95.

### Spectral problems

**Experiments in Modern Analytical Chemistry**  
by D. Kealey  
Blackie, £5.95  
ISBN 0 216 91802 2  
Organic Structures from Spectra  
by S. Sternhell and J. R. Kalman  
Wiley, £22.00 and £6.95  
ISBN 0 471 90644 1 and 90647 6

The past 20 years have seen extensive changes in the techniques available to the analytical chemist. Gone are the days when a drop of this or that was added to the unknown solution, and one waited for a colour or precipitate to appear. Now the sample is offered to a series of black (or often grey) boxes, each of which measures, under microprocessor control, the relevant properties of the sample, from which we can deduce the nature and quantity of its components. This or that may still be added, but automatically and with great precision; and sensors measure the relevant changes, displaying their observations on the ubiquitous television screen.

The range of such techniques now offered to the analyst is wide indeed. The separation of a mixture into its components utilizes many varieties of chromatography, which can deal with a milligram or less of material. Each component can be channelled to a mass spectrometer to give its precise atomic composition and valuable clues as to its identification. Additional information comes from a wide variety of spectroscopic methods, the most generally useful of which are infra-red spectroscopy to indicate what structural groups are present, and nuclear magnetic resonance spectroscopy to show very precisely the amount of each group and how they are connected. Trace metals, perhaps in a fertilizer or food, may be measured spectroscopically or by a variety of electrical techniques involving measurement of the voltage or current at an electrode dipped into the solution. These techniques, and others, can be applied to samples as diverse as a ladle full of molten metal, a fragment of paint from a 15th-century masterpiece, and even the living human body.

Kealey's book offers a tiny sample of this diversity. Intended for use by students in the laboratory, it provides essential experimental details and comments for 22 analytical experiments. It begins with an introductory section on laboratory techniques, some data tables, and a very useful summary of the proper statistical treatment of experimental data (a subject deserving closer attention from students), supported by an experiment specifically designed to illustrate the principles involved.

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## Colleges and Institutes of Higher Education continued



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## Colleges and Institutes of Technology continued

### Gloucestershire College of Arts and Technology

Applications are invited from suitably qualified people for the following posts:

#### SENIOR LECTURER MARKETING

Salary £11,958 - £14,046, bar £15,044. Post No. 9970014

The person appointed will contribute to the marketing of the College's courses. In particular, they will be responsible for the development of the Department's marketing strategy and for the implementation of this strategy.

The successful candidate is likely to be a corporate member of the Institute of Marketing and will have had significant marketing experience and an ability to demonstrate their ability to effectively manage a team.

Salary £11,958 - £14,046, bar £15,044. Post No. 9970014

Details and forms to be returned by 16th May 1986 to the Administrative Assistant, Department of English and General Studies, Tel: (0223) 352951, H8.

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## Research and Studentships continued

**South Bank  
Polytechnic**  
**SENC RESEARCH  
STUDENTSHIP**  
(One year)  
Salary £7,101 inclusive

Applications are invited for a Research Studentship in expert systems applications. The student will be involved in the development of expert systems for the diagnosis of faults in the power plant of the H.M. Coastguard.

Candidates should be graduates with basic computing capability and be interested in the development of expert systems. The student will be based at the Wandsworth Road site of the Polytechnic.

Please send a full CV, quoting Reference RA85, and the names of three referees to the Personnel Department, South Bank Polytechnic, Borough Road, London SE1 0AA. Closing date for applications: 15 May 1986.

An Equal Opportunities Employer (19285) H12

**University of  
Durham**  
Department of Physics

**RESEARCH IN  
HIGH ENERGY  
ASTRONOMY**

Applications are invited for a postdoctoral research fellow to join a well established group exploiting the ground based Chandra X-ray telescope in gamma-ray astronomy. The group is involved in the development of a new generation of gamma-ray detectors. The post is for two years, with the possibility of extension. Salary will be in the range of £8,000 to £10,000 per annum.

The appointment will commence on or before 1 October 1986 and be for a period of up to three years. Initial salary will be in the range of £8,000 to £10,000 per annum.

Applications (3 copies) should be sent to the Director of the Centre for High Energy Astrophysics, Durham University, Leazes Road, Durham DH1 1TA. Further details are available on request. (19285) H12

**University of  
Oxford**  
Inorganic Chemistry Laboratory

**POSTDOCTORAL  
RESEARCH  
ASSISTANT**

Applications are invited for a postdoctoral research assistant to work with Dr. J. K. Stille on the synthesis of new organotin compounds. The post is for two years, with the possibility of extension. Salary will be in the range of £8,000 to £10,000 per annum.

The post is available for two years from 1 October 1986 and be for a period of up to three years. Initial salary will be in the range of £8,000 to £10,000 per annum.

Applications, which should include a CV and the names of three referees, should be sent to: Dr. J. K. Stille, Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QR. (19285) H12

**University of  
St Andrews**  
Department of Applied  
Mathematics

**SERC CASE RESEARCH  
STUDENTSHIP**

Applications are invited for a SERC Case Research Studentship in the field of applied mathematics. The student will be involved in the development of a new generation of mathematical models for the analysis of fluid flow.

This work leading towards a Ph.D. degree, will be mainly theoretical, but there is a likelihood of involvement with related experiments in A.R.E.

Enquiries and applications (including CV and names and addresses of two referees) should be sent to: Dr. A.D.J. Crook, Department of Applied Mathematics, University of St Andrews, St Andrews, Fife KY16 9SS. (19285) H12

**University of  
Liverpool**  
**POSTDOCTORAL  
SENIOR RESEARCH  
ASSISTANT**  
Department of Organic  
Chemistry

Applications are invited for a postdoctoral research assistant to work with Professor J.O. Sutherland on the synthesis of novel substituted indoles and to investigate their behaviour as active site models. The successful applicant will join a group working on several aspects of these host-guest systems.

The initial appointment will be for a year from 1 October 1986 with the possibility of extension for a further year. Informal enquiries can be made by Tel: 051-709 5022, Ext. 2145.

Initial salary will be either £8,000 or £9,500 per annum.

Applications, together with the names and addresses of three referees, should be sent to: Dr. J.O. Sutherland, Department of Organic Chemistry, University of Liverpool, P.O. Box 147, Liverpool L69 3GB. Tel: 051-709 5022, Ext. 2145. (19285) H12

## Administration

**NATIONAL  
ADVISORY BODY  
for  
Public Sector  
Higher Education**
**ADMINISTRATIVE  
OFFICER**

A vacancy exists for an administrative officer to work primarily in the area of academic planning. The post would suit someone with experience of this type of work in an educational organisation or institution and who has an interest in higher education policy issues.

Salary will be within the range of £11,910-£15,526, inclusive of London weighting. For further particulars and an application form, contact: 01-837 1132 or write to: NAB, Metropole House, 22 Percy Street, London W1P 0FF.

The closing date for applications is Friday 16th May 1986. (19285) H12

**Trent Polytechnic**  
Office of the Academic  
Registrar

**ASSISTANT  
ACADEMIC  
REGISTRAR**  
(Course Validation and  
Review)

Applications are invited for a post in the newly established post of Assistant Academic Registrar. The post is for two years, with the possibility of extension. Salary will be in the range of £8,000 to £10,000 per annum.

Further details and forms of application are available from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 6BU. Closing date: 14th May 1986. (19285) H12

Applications, which should include a CV and the names of three referees, should be sent to: Dr. J. K. Stille, Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QR. (19285) H12

**Association of  
Commonwealth  
Universities**
**EDITORIAL AND  
INFORMATION  
ASSISTANT**

Applications are invited for a post in the newly established post of Assistant Academic Registrar. The post is for two years, with the possibility of extension. Salary will be in the range of £8,000 to £10,000 per annum.

Further details and forms of application are available from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 6BU. Closing date: 14th May 1986. (19285) H12

Applications, which should include a CV and the names of three referees, should be sent to: Dr. J. K. Stille, Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QR. (19285) H12

## Administration continued

**AMGUDDFA GENEDLAETHOL CYMRU -  
NATIONAL MUSEUM OF WALES**  
**APPOINTMENT OF  
SECRETARY TO THE MUSEUM**

Applications are invited for the post of Secretary to the National Museum of Wales. Candidates must possess a good honours degree or equivalent professional qualifications and must have had responsible and relevant administrative experience.

The appointment will initially be on a scale of £18,020 rising to £24,302 (under review).  
Contributory pension rights.

Further particulars of the post may be obtained from the Director, National Museum of Wales, Cathays Park, Cardiff CF1 3NP to whom applications should be submitted not later than Friday, 30 May 1986. The reference SD should be quoted. (19285) H12

## Librarians

**UNIVERSITY OF OXFORD  
Bodleian Library**

The Curators of the Library invite applications for the following posts:

**DEPARTMENT OF WESTERN MANUSCRIPTS**  
Following the election of Mr D. G. Vaisey, formerly Keeper of Western Manuscripts, to the post of Bodley's Librarian, a well-qualified and experienced scholar is sought for the post of:

**KEEPER OF WESTERN  
MANUSCRIPTS**  
(Sub-Librarian, £16,330 x 6 - £21,495)  
with full responsibility for the management and direction of the Department.

**DEPARTMENT OF PRINTED BOOKS**  
As a consequence of the need to press ahead with the introduction of a fully automated catalogue, a well qualified catalogue with experience of the use of computers is required for the new post of:

**HEAD OF CATALOGUING**  
(Grade III, £14,870 x 7 - £18,625)  
with responsibility for the management of the Library's automated and manual cataloguing processes.

Further particulars of both posts may be obtained from the Secretary of the Library, Bodleian Library, Oxford OX1 3BN, to whom completed application forms with the names of three referees should be returned by Monday 2nd June 1986. (19285) H12

## Overseas

**University of  
Cape Town**
**LECTURER IN  
LINGUISTICS**

Applications are invited for the above post vacant from 1 January 1987.

Candidates should be qualified to teach undergraduate general linguistics, and have a research interest in the area of African languages and literatures. A research interest in the area of African languages and literatures is an advantage.

Appointment will be made according to qualifications and experience. Salary will be in the range of £18,000 to £24,000 per annum, with an annual bonus and attractive staff benefits.

Applications should be submitted in triplicate, with a curriculum vitae and the names and addresses of three referees, to the Registrar, University of Cape Town, Private Bag, Rondebosch, 7700, South Africa. Further information should be clearly quoted on envelope.

The University's stand against apartheid and its policy of non-discrimination in the appointment of staff on the basis of race or religion is a condition of employment. (19285) H12

## Overseas continued

**AUSTRALIA  
NEW SOUTH WALES**  
**Riverina-Murray Institute  
of Higher Education**  
Location: Wagga

The Institute is a major provider of higher education in South West New South Wales and in north-eastern Victoria, Australia. In 1986 more than 6000 students are enrolled in over 50 courses offered by full-time, part-time and correspondence study modes.

**School of Education**  
**Senior Lecturer I/II  
in Nursing**

The Institute was one of the first colleges to be involved in the transfer of nurse training from hospitals to colleges. The course being offered and planned reflect a diversity of experience both within Australia and overseas.

The Institute seeks a Registered Nurse with experience in nurse education and possessing appropriate academic qualifications and experience. Expertise in medical/surgical nursing or community nursing would be an advantage.

**School of Agriculture**  
**Lecturer I/II/III  
in Amenity Horticulture**

To teach in the areas of Landscape Establishment, and Management and/or Nursery Production and to assist a small team in the development and presentation of a new programme in Amenity Horticulture.

Applicants should possess a degree/diploma in Horticulture, Agriculture or equivalent.

**Salary Range:**  
Senior Lecturer I \$439,988 per annum to \$442,588  
Senior Lecturer II \$436,541 per annum to \$439,141  
Lecturer I \$431,873 per annum to \$435,777  
Lecturer II \$427,233 per annum to \$431,140  
Lecturer III \$423,473 per annum to \$426,888

General: Conditions of employment include conditional eligibility to contribute to superannuation and to participate in the Institute's Home Purchase Scheme. A contribution towards relocation expenses will be made.

Riverina-Murray Institute reserves the right to appoint on a conditional tenure or fixed-term contract basis.

**CLOSING DATE: FRIDAY, 30TH MAY, 1986**  
**APPLICATION FORMS AND additional information are available from:**  
**THE DIRECTOR, NEW SOUTH WALES  
GOVERNMENT OFFICES, 65 STRAND, LONDON, WC2N 6LZ. Tel: 01-639 6651 Ext. 157**

**University of  
Zimbabwe**

Britain has recently signed a new Aid agreement with Zimbabwe, the UK/Zimbabwe Manpower Scheme, to recruit skilled British staff for key posts in Zimbabwe.

**Lecturer/Senior Lecturer/Associate Professor  
Faculty of Electrical Engineering**  
Post 1: Power Systems  
Post 2: Electro Magnetics  
Faculty of Mechanical Engineering  
Post 1: Applied Mechanics  
Post 2: Solid Mechanics  
Post 3: Engineering Drawing and Design  
Post 4: Dynamics and Control  
Post 5: Thermo Fluids

Duties: to teach undergraduates in the above subject areas, with some limited administrative duties.

Qualifications: candidates should be UK citizens, preferably aged 30-50 although candidates up to 65 will be considered. An honours degree in an appropriate field of engineering is essential, a Masters or PhD is desirable, together with considerable industrial experience.

Salary: a local salary in the range indicated below (£1-£232,050) plus a tax free sterling allowance as follows:  
Lecturer 23,174-34,900 \$4,488-6,894  
Senior Lecturer 23,25-116-28,032 \$5,290  
Associate Professor 23,25-116-28,248 \$11,682

Benefits: return air fares for postholder and dependants; baggage, installation and rent allowances; contributory medical scheme.

Contract: a two-year contract with the University of Zimbabwe; date of appointment by mutual agreement. Closing date for applications: 30 May 1986. References: 88 K 10-17 (Electrical Engineering) 88 K 10-22 (Mechanical Engineering)

For further details and an application form, please write, quoting the post reference number, to: Overseas Educational Appointments Department, The British Council, 65 Davies Street, London W1Y 2AA.

**The  
British  
Council**

## Overseas continued

**FOOTSCRAY INSTITUTE  
OF TECHNOLOGY**  
(Melbourne, Australia)  
**FACULTY OF ENGINEERING**  
**DEPARTMENT OF ELECTRICAL & ELECTRONIC  
ENGINEERING**

Footscray Institute of Technology is the major tertiary education institution of the western region of Melbourne. Courses in Electrical and Electronic Engineering and Computer Science include the four year B Eng (Elec.) degree, specialist postgraduate diplomas in Communication Systems and in Digital Control and a new B App Sc degree in Computer Technology. Applications are invited for the following positions:

**Senior Lecturer  
Control Engineering**

The Department has a developed reputation in the control systems field, particularly in the area of digital control using computer methods. The position (EE86-1) arises with the transfer of the present incumbent to a senior industrial appointment.

The appointee will assume responsibility for the control systems area of the Department, including staff leadership, course operation and development at undergraduate and postgraduate level, the application of staff expertise in applied research and consulting, and contribution to the broad academic interests and excellence of the Department.

Applicants must have proven capacity for innovative and effective leadership, together with a diverse experience in one or more of the areas of computer control, computer based instrumentation, or conventional control systems. A relevant degree is essential.

**Lecturers in Digital Systems,  
Software, and Control Engineering**  
Lectureship EE86-2 requires interests and experience in software engineering including programming and software system design, and such other areas as knowledge based systems, data base design, multiprocessing software, etc.

Lectureship EE86-3 requires interests and experience in the areas of digital electronic devices, circuits and systems, including microprocessor applications, system design and related software development.

Lectureship EE86-4 requires interests and experience in one or more of the areas of computer control, computer based instrumentation, or conventional control systems. A relevant degree is essential.

Each position will also require supporting interests appropriate to other general teaching areas in electrical and electronic engineering, and computer science. Appointments may be on either a tenure of initial contract basis. Lectureship applicants must have a degree, typically a higher degree, in electrical engineering, computer science or a related discipline together with a minimum of two years relevant experience.

**Salary Range:** Senior Lecturer \$436,541 to \$442,588 per annum, Lecturer \$427,233 to \$431,140 (L1 - \$42,400 approx.)  
Information sheets providing further details of the Institute, the positions, and appointment and removal provisions may be obtained from the Head of Department, Mr. E. K. Walker, Telephone (03) 884-4264 or Telex A438566.

Applications, including a curriculum vitae and the names of two referees, should be forwarded by the closing date of 30 May 1986 to:

**Footscray Institute of Technology,  
P.O. Box 64, Footscray, Victoria 3011, Australia**

**National University of Singapore**  
**TEACHING APPOINTMENTS IN  
DIAGNOSTIC RADIOLOGY**

Applications are invited for teaching appointments in the Department of Diagnostic Radiology.

Candidates should possess an approved basic medical degree and recognised higher professional/academic qualifications together with teaching and research experience. The successful candidate is expected to have expertise on the various aspects of clinical diagnostic imaging, including ultrasonography and computed tomography. For senior appointments, familiarity with nuclear magnetic resonance will be an advantage.

Gross annual emoluments range as follows:  
Lecturer \$828,300-58,680  
Senior Lecturer \$853,180-94,080  
Associate Professor \$882,430-113,530

(STGE1 = \$83.22 approximately)

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered. In addition, appointees may opt to retain concession fees up to 60% of their annual gross salary or to receive a fixed annual clinical allowance as follows:

Lecturer \$88,000/9,000  
Senior Lecturer \$815,000  
Associate Professor \$821,000

Leave, medical and provident fund benefits will be provided. Depending on the type of contract offered, other benefits may include: a settling-in allowance of \$51,000 (single) or \$82,000 (married), subsidised housing at nominal rentals ranging from \$8100 to \$8218 p.m., education allowance for up to three children, subject to a maximum of \$810,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore.

Application forms and further information on terms and conditions of service may be obtained from:

**The Director  
Personnel Department  
National University of Singapore  
Kant Ridge  
Singapore 0611**

**NUS Overseas Office  
Singapore High Commission  
In London  
5 Cheamham Street  
London SW1  
U.K.  
Tel: (01) 235-4562**

**University of  
Ottawa**  
Department of English  
Applications are invited for a tenured

**ASSOCIATE  
PROFESSORSHIP  
IN MID-NINETEENTH  
CENTURY  
AMERICAN  
LITERATURE**  
(American Renaissance preferred) effective July 1, 1987. Candidates must have a publication record. Deadline November 1, 1986.  
Send c.v., representative publications and three letters of reference to: Dr. J. M. G. LeGendre, Department of English, University of Ottawa, Ottawa, K1N 6N5.

**NATIONAL UNIVERSITY OF SINGAPORE**  
School of Building and Estate Management

Applications are invited for teaching appointments ranging from Lectureships to Associate Professorships from candidates with suitable academic and professional qualifications.

Candidates should have a minimum of three years relevant working experience after graduation and some full-time teaching experience in the following areas:

- Construction Technology, Construction and Project Management; Maintenance Management, Quantity Surveying
- Land Economics with special reference to Real Estate Finance, or Development Economics, or Econometrics and Statistics, Management Accounting; Valuation of Land and Buildings; Town Planning.

Gross annual emoluments range as follows:  
Lecturer \$828,300-58,680  
Senior Lecturer \$853,180-94,080  
Associate Professor \$882,430-113,530

(STGE1 = \$83.22 approximately)

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered. Depending on the type of contract offered, other benefits may include: a settling-in allowance of \$51,000 (single) or \$82,000 (married), subsidised housing at nominal rentals ranging from \$8100 to \$8218 p.m., education allowance for up to three children, subject to a maximum of \$810,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

Application forms and further information on terms and conditions of service may be obtained from:

**The Director  
Personnel Department  
National University of Singapore  
Kant Ridge  
Singapore 0611**

**NUS Overseas Office  
Singapore High Commission  
In London  
5 Cheamham Street  
London SW1  
U.K.  
Tel: (01) 235-4562**

**THE HEBREW UNIVERSITY OF  
JERUSALEM**
**EDUCATIONAL PLANNING  
AND ADMINISTRATION**

The Division of Educational Planning and Administration, School of Education, Hebrew University of Jerusalem, Israel, is seeking candidates for a newly opened teaching position.

Responsibilities: Teaching classes in educational administration; including courses in school management, decision making and policy analysis.

Qualifications: Ph.D. in Educational Administration; school-based administrative experience; demonstrated ability in research and methodology.

Applicants should send current curriculum vitae, three addressed letters of recommendation to: Dr. Dan Inbar, School of Education, Hebrew University of Jerusalem, Israel. (19285) H12

## Research

**CAREERS IN RESEARCH  
ADMINISTRATION**
**Senior Scientific Officer  
in the Economic Affairs Group**  
(Salary: £11,137 to £14,018 under review)

ESRC is a government funded research Council which funds research and training in the social sciences. It has six major research committees which support research in Economic Affairs, Industry and Employment, Social Affairs, Education and Human Development, Environment and Planning, and Government and Law.

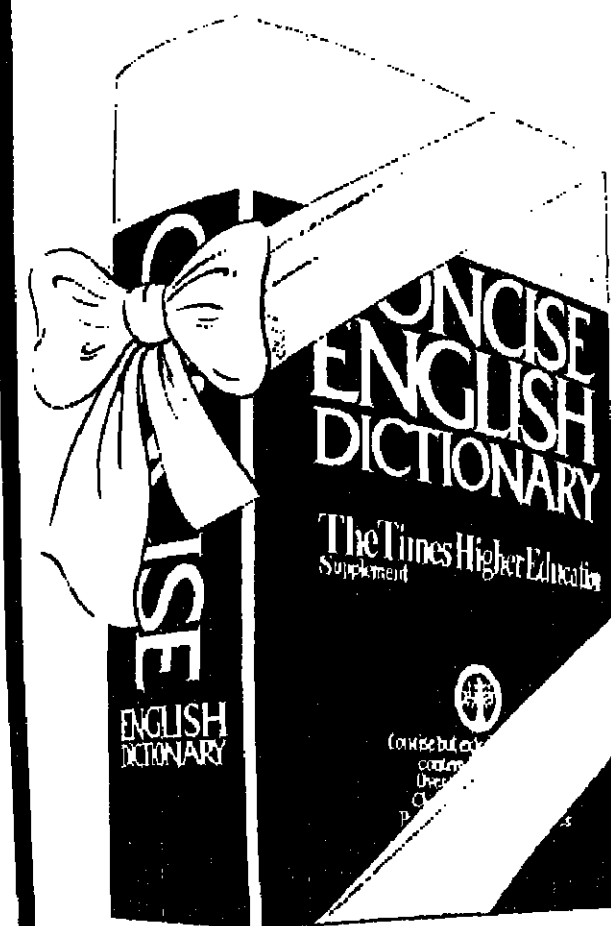
The Council requires a Senior Scientific Officer to act as a deputy in charge of the work of the Economic Affairs Committee. The work is primarily concerned with administration of research projects in British universities, polytechnics and research institutes. There is ample opportunity for working independently particularly in developing the Committee's research initiatives.

The successful applicant will normally be at least 27 years old, with a good honours degree in economics or related subject, and with at least 4 years postgraduate experience in research (including postgraduate study) or research administration. The post is based in London at the Council's head office at 180 Great Portland Street, London W1. Conditions of service include a non-contributory pension scheme and access to a promotion scheme after 2 years' service.

For suitable candidates secondment will be considered. The ESRC is an Equal Opportunities Employer.

Application forms and further details may be obtained from: Tim Burroughs, Economic and Social Research Council, 180 Great Portland Street, London W1N 6BA; Telephone 01-637 1499 Ext 208. Closing date for applications: 20 May 1986. Ref: 880/THE.

**E/SRC** ECONOMIC AND SOCIAL RESEARCH COUNCIL



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